

出国留学英语
阅读强化教程
基础
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出国留学英语阅读强化教程：基础

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内 容 简 介

本套教材共四册，是面向高中英语水平以上的学生而编写的强化阅读教程。本套书的词汇量起点为最基础的3 000 个单词，通过计算机程序筛选，以英国国家语料库最常用词汇列表的前11部分为基准，每册书增加2 000 个新词，四册书的词汇覆盖量达到11 000。每册各包含十个单元，每单元由Focus on、Text A和Text B三部分组成。

本书帮助学生掌握第5 000~7 000 的两千词汇量；Focus on板块主要聚焦阅读基本技巧，提高学生的课文理解能力。

本套教材配有慕课在线课件和在线测试系统，全部课文也都配有英美原声朗读音频，可以进入“海大慕课”（www.moocouc.com）参加学习、辅导，并下载音频文件。

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前 言

本套教材是面向已经具有高中英语水平的学生而编写的英语阅读教程。国内目前所使用的英语教材，尽管对词汇量有一定的要求，但是教材本身的词汇量覆盖面严重不足。国外要求学生进行大量的课外阅读，教材没有覆盖的词汇可以依靠大量的课外阅读进行补充。但是中国的情况比较特殊，学生在学习英语时，有很强的应试目的性，基本上没有时间进行课外阅读，所以教材没有覆盖的词汇是很难掌握的。根据以上情况，本套教材提出了基本词汇全覆盖的设计理念。在中小学 12 年英语学习的基础上，通过本套教材的学习，可以培养学生的英语阅读能力，包括对基本词汇的认知能力，使之基本达到英语国家阅读人群的一般水平，或者说达到可以到国外大学接受以英语为教学语言的教育的程度。

根据高中阶段教学大纲规定的高中生词汇量大约为 4 000 个这一基本事实，本套教材的起点是最基础的 3 000 个单词（即这 3 000 个单词不再作为生词），通过计算机程序筛选，以英国国家语料库最常用词汇列表的前 11 部分（即全部为 11 000 个单词）为基准，每一册书增加 2 000 个新词，四册书的全部词汇量覆盖面为 11 000 个单词。这一词汇量水平，尽管远达不到英语国家学生大学入学时的词汇量，但超出国内大学公共英语四六级水平。如果能够达到这一目标，学习者至少可以有一个比较好的英语基础，能够顺利进入英语国家或其他国家以英语为教学语言的大学继续学习。

本套教材共四册，每册书的每一个单元都包括 150~200 个新词（编写过程中通过编好的计算机程序进行筛选），并保证新词不与其他三册书的新词重复。通过程序筛选，确保每册书的新增词汇量达到 2 000 左右。学生在学习完四册书之后，阅读词汇量达到 11 000 个左右，基本上可以达到自主流畅阅读一般性英语读物的水平，为进一步用英语作为教学语言学习各个专业（包括英语语言文学专业）打下坚实的语言基础。

长期以来，许多人对国人英语学习的状况有一个误解，即国人阅读能力尚好，但听说能力不行。其实，这一误解来源于对英语阅读本身的误解。所谓的阅读能力，正常应当是指在不借助字典的情况下，可以无障碍读懂一般性英语读物的能力，而一般性读物通常是指一般文学和非文学读物、报刊，也就是英语国家高中毕业生所能够达到的能力。换句话说，本套教材的目标是要求学习者达到英语国家教育的扫盲要求。目前，我国中学生和大学生的英语阅读能力，即便是基础好的学生，也普遍达不到这个标准。主要差距在两个方面：一词汇量太小，基本阅读的材料都是控制词汇量的文本，而且还时常需要查生词；二阅读速度太慢，理解也慢，一个文本往往要读两遍及以上才能读懂。在这种情况下，想听懂同样水平的英语语音材料基本是不可能的。所以，很多自认为阅读能力尚好的学生，实际上阅读能力可能并不好。如果按英语国家对阅读的要求，基本算是文盲。本套教材的编者充分考虑了我国学生在阅读方面的这两个差距，一方面强调词汇量的扩充，另一方面强调阅

读速度的提高。本套教材的书名，也反映了这样一种理念，即通过学习这套教材，突破阅读障碍，为进一步学习英语打下坚实的基础。

为了实现这一目标，本套教材配有慕课（MOOC）在线课件和在线测试系统，全部课文也都配有英美原声朗读音频，可以进入“海大慕课”（www.moocouc.com）参加学习、辅导，并下载音频文件。课文朗读音频一方面可以作为一种学习阅读的辅助手段，反复听读、跟读，把学习的内容从视听两个方面输入大脑，强化和巩固学习的效果；另一方面也可作为阅读学习的一把标尺来衡量学生是否达到学习目标之一：阅读速度的提升。学生的阅读速度至少要达到朗读速度，并且逐渐超过朗读速度，才能听懂音频材料，达到教学目标的要求。所以，使用本套教材的教师，不能仅以学生读懂课文内容为目标，一定要在读懂的基础上，不断提高阅读速度：首先，需要读懂课文；其次，需要听懂课文的录音，并进一步熟练跟读课文，达到熟练朗读的程度；最后，应当默读达到每分钟 250~300 个词的速度（即英语国家受过教育人群的一般阅读速度）。

英语作为一种拼音文字，其阅读可以分为四种：第一，拼读，即对每一个词，按读音规则读出每一个音节，也就是学会看到一个词，能拼读出它的发音，然后理解它的意义。第二，流畅朗读，省略音节的拼读，把每一个词作为一个整体读出发音并理解意义，这样可以大大提高阅读速度。第三，默读，即并不发出声音，只是在心里默读（根据研究，发音器官实际上也有反应，但是不发出声音）。默读要比朗读快很多，根据研究，默读的极限速度可以达到每分钟 800~900 个词。第四，视读，完全省略语音与单词的联系，通过视觉把词或词组直接与意义建立联系。掌握这种阅读方法的人，阅读速度可以达到每分钟几千个词。不同的阅读方法有着不同的功用和使用环境。即使在英语国家，大部分人也只能获得前三种阅读能力，而使用本套教材的学生都是把英语作为外语学习的人，所以只以掌握前三种阅读能力为目标。而且，第三种能力也只设立了最低的目标，即每分钟阅读 250~300 个词。当然作为长远目标，每分钟阅读 500 个词或更多应当是每一个英语学习者努力的方向。所以，本套教材要求学生对所有的课文都应当熟练朗读和快速默读。

本套教材的编者认为，由于所处的环境，我们最容易得到的英语材料是阅读材料，而且阅读材料从词汇的覆盖面、题材的广泛性方面来看都是其他材料所不能比拟的。所以，对中国学习者而言，英语阅读往往是最容易入门的。从阅读入手取得突破，然后转战听力、口语、写作，不但体现了中国古代先哲兵力战法的智慧，也符合现代学习心理学的认知。

本书为该套教材的第二册，承上启下，要求学生在掌握第一册的单词和构词法的基础上，通过本册的学习掌握第 5 000~7 000 的两千词汇量。阅读技巧方面，结合每单元第一部分 Focus on 和课文理解，帮助学生掌握句子和段落理解的基本技巧，如：快速阅读获取段落的主要观点和辅助性细节信息的能力；对不同类型关系从句和关联词的掌握；对句子表达中的暗示的理解；对事实与观点的分辨；通过对语气、写作目的和论证的基本结构的掌握进行推理的能力。阅读速度方面，要求学生在理解的基础上，默读达到每分钟 200 词

的速度。

本册共有 10 个单元，每个单元选取两篇课文，每一篇课文前面有重点单词 Core Words，这部分的解释包括同义词、反义词、同根词以及相关短语。课文内容大都改编自国外的报纸和杂志，以保证输入内容的“原汁原味”，其内容兼顾学术性和趣味性，可读性强，课文后附相关注释。课后练习的设计秉承“以学习者为中心”的理念，以学生的英语语言基础能力和阅读能力培养为目的，既有跟阅读理解直接相关的回答问题、判断正误和听写练习，旨在提高学生精读和阅读理解能力；也有词汇、翻译和写作的相关练习，在阅读基础上，继续夯实学生的语言基础，提高他们的词汇量以及写作和翻译能力。

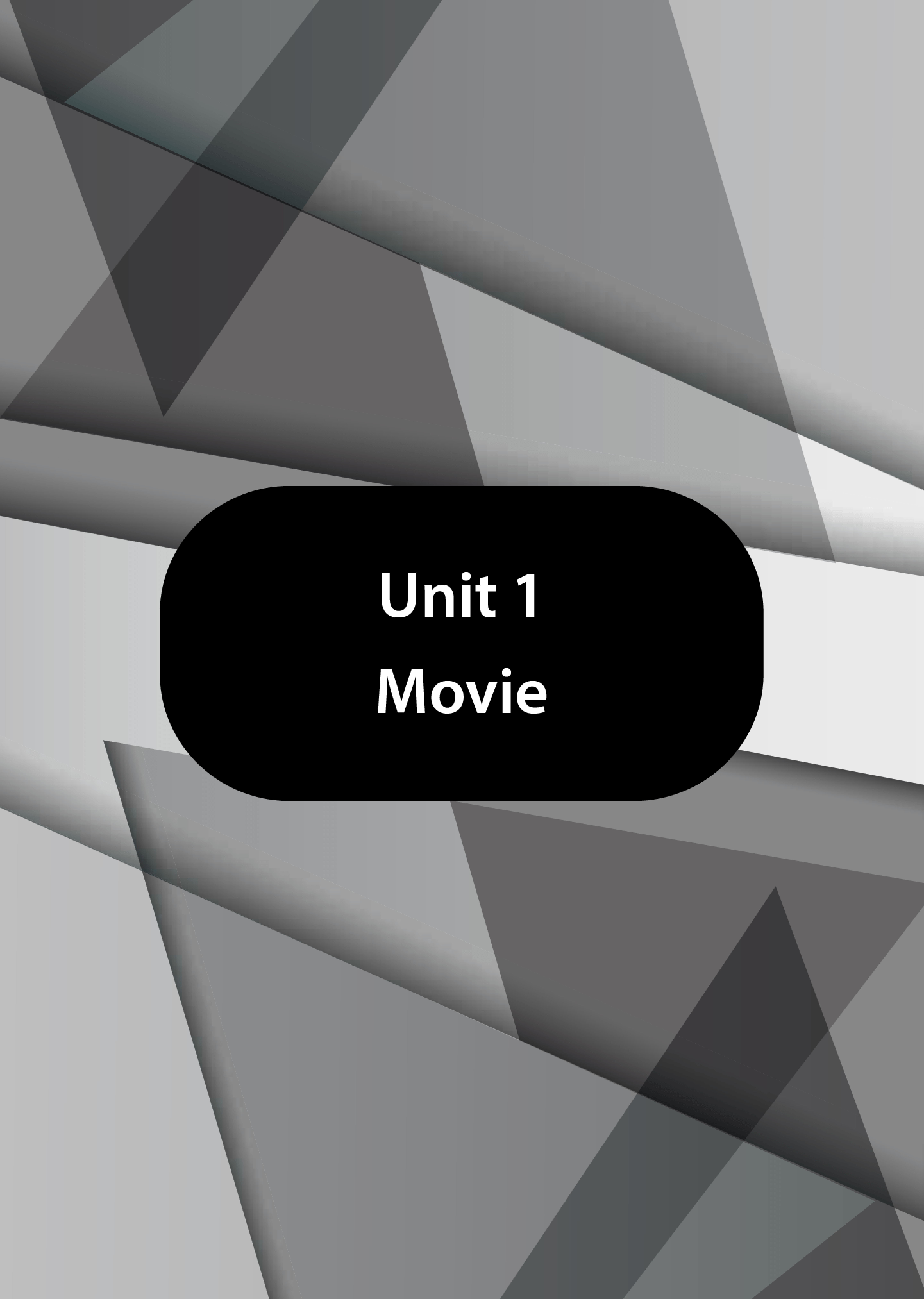
每单元的设计中都预留了学生自学部分的内容，在实际教学中建议教师用 6~8 个课时完成一个单元，其中自学课时不少于 2 个。

本教材的编写得到山东大学外国语学院、中国海洋大学外国语学院和国际教育中心、山东师范大学外国语学院、山东科技大学外国语学院、青岛理工大学外国语学院、山东威海外事学院、青岛工学院和山东外贸职业学院以及清华大学出版社的鼎力相助，尤其是山东中英国际工程图书有限公司的资助，在此一并感谢。

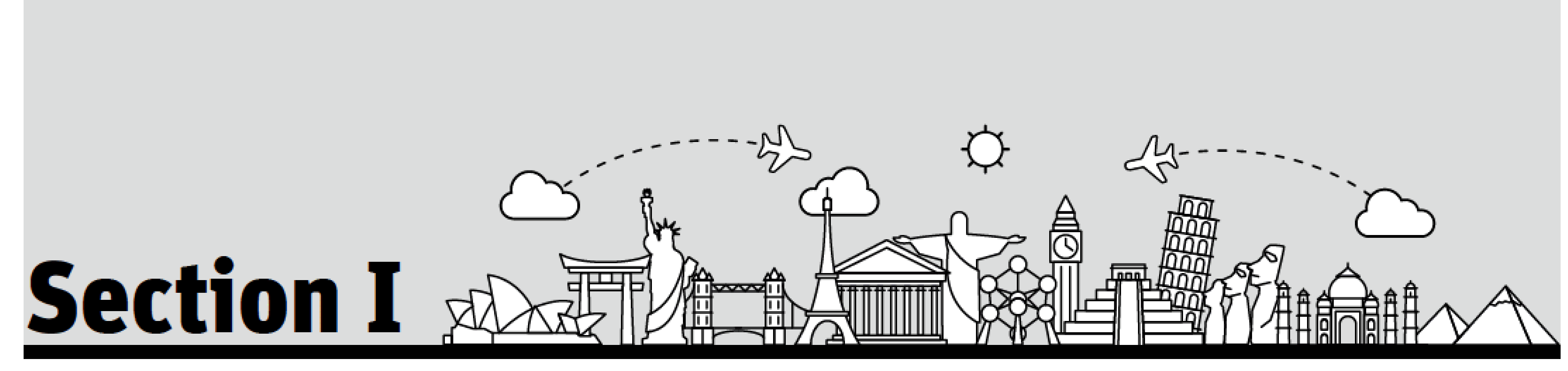
编者

2018 年 8 月

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Unit 1
Movie



Section I

Focus on Strategies for Textbook Learning—Introducing SQ3R

If you are reading a best-seller by a writer like Dan Brown, you more than likely let your mind drift along with the story, almost like you were dreaming it. However, this dreamy, unfocused approach, perfect for leisure reading, is not appropriate for textbooks. With textbooks, you need a systematic but flexible system that can take into account the difficulty of the material, the author's writing style, and the goals of your assignment. SQ3R is flexible enough to take all three elements into account.

S: Survey to Get a General Overview and Make Predictions

When you begin a textbook assignment, don't just open your textbook and start reading. Instead, to survey or preview the material using the general sequence of steps described in the following. Although the steps in a survey may increase or decrease according to text difficulty and your knowledge of the material, these seven steps are almost always essential.

1) ***Read the title. Consider what it suggests about the chapter's content.***
2) ***Read all introductory material. Introductory material includes chapter outlines, lists of questions, goals, and objectives, all of which identify what the author expects readers to learn.***
3) ***Use the title and introduction to form a general question or two about what's covered in the chapter. Check your memory to see if you have any prior knowledge, or previous experience, related to the topic discussed.***
4) ***Read the headings and opening sentence of chapter sections. If the material is especially difficult or unfamiliar, expand this step: Read the last sentence of every chapter section or even the first and last sentence of every paragraph.***
5) ***Look at all visual aids. Visual aids include pictures, photos, maps, charts, boxes, icons and graphs. If captions or explanations accompany the visual aids, read them, too. Ask yourself what each visual aid suggests about the chapter's content. If specific icons are used consistently in the chapter, see if you can figure out what kinds of information they identify.***
6) ***Pay attention to words printed in boldface or in the margin of the page. With particularly important or difficult courses, expand this step to include jotting boldface or italicized terms in the margins. As you read, you can then add definitions to the terms noted in the margins.***
7) ***Read end-of-chapter summaries and questions. If there is no end-of-chapter summary, read the last page of the chapter.***

Q: Ask and Answer Questions While Reading

Many students complain that they lose concentration when they study. This isn't unusual.

It happens to all of us when we try to absorb new and difficult material for any length of time. Still, the problem of failing concentration can be considerably reduced if you ask questions while reading. Raising and answering questions during a study session can help you remain mentally active throughout your reading. Using questions to maintain your concentration can also keep you alert to key points addressed in the chapter.

R1: Read Difficult Material in Sections or Chunks

If you have an overall picture of a chapter or an article's contents and you know some of the questions you want to answer, it's time to start reading. Remember, though, that textbook study sessions shouldn't last more than one and a half to two hours. Your eyes could keep going a good deal longer than that, but your brain probably couldn't, and your concentration would be less focused. It's better to plan on a two-hour maximum study session so that you can focus the whole time.

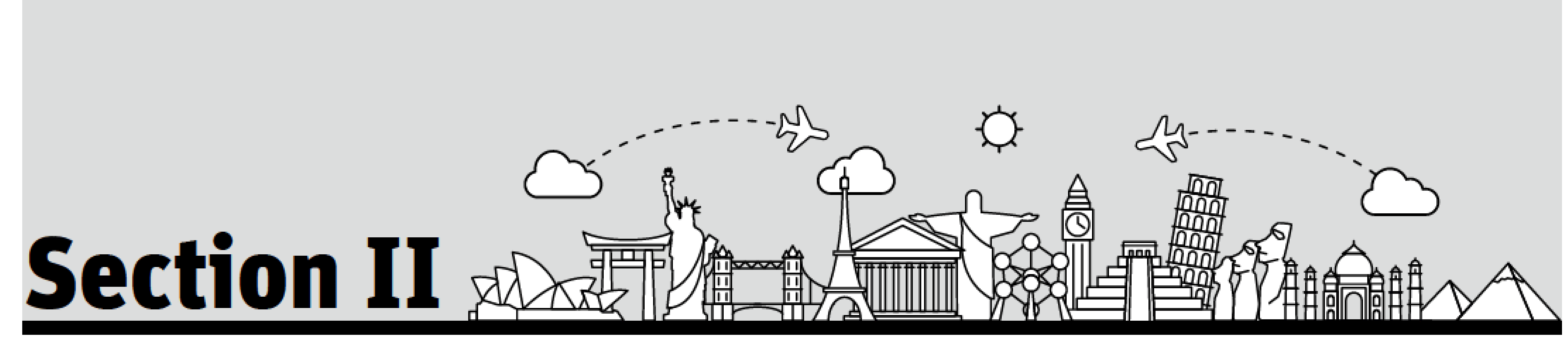
R2: See How Much You Can Recall Right After Reading

When an author's words are right before our eyes, we usually think we understand them. Yet if we look away from the page and try to recall what we've read, we often discover that what we remember is a muddle or incomplete. That's what makes the recall step of SQ3R so important. It's a way of monitoring your understanding before going on to the next section of a chapter or an article.

But there's another reason why recalling right after reading is critical: Most people are inclined to forget new information right after reading it. Fortunately, though, with the passage of time, the rate of forgetting slows down, and we forget less as time passes. That means anything we do to fix newly absorbed information into long-term memory right after reading—when the rate of forgetting is the highest—improves our chances of remembering what we have read, even weeks or months later.

R3: Review Right After Completing the Assignment

The third R in SQ3R refers to the review that takes place after a chapter is completed. The first goal of review is to get a sense of how the parts of a chapter connect. The second goal of a first review is to confirm or revise your initial predictions about a chapter's contents.



Section II

Text A: After All the Crazy Oscar Drama Live Onstage, One Idea Endures: the Power of Empathy

Part 1 Power of Words

Core Words

① **eloquent** ['eləkwənt] ***adj.***

Speech or writing that is eloquent is well expressed and effective in persuading people.

synonym	expressive; fluent; articulate; persuasive; stirring
antonym	inarticulate
word family	eloquently; eloquence
related phrase	eloquent speech/speaker/proof

Example 1 I heard him make a very eloquent speech at that dinner.

Example 2 The photographs are an eloquent reminder of the horrors of war.

② **detest** [dɪ'test] ***vt.*** **(detested/detested/detesting)**

If you detest someone or something, you dislike them very much.

synonym	hate; loathe; despise; abhor; abominate; turn away from
antonym	love
word family	detestable; detestably; detestation
related phrase	detest sb./sth.; detest doing sth.

Example 1 I detest those who deceive me.

Example 2 The workers detest his overbearing manner.

③ **migrant** ['maɪgrənt] ***n.***

A migrant is a person who moves from one place to another, especially in order to find work.

synonym	wanderer; traveller; nomad; refugee
word family	migratory; migration; immigrant; emigrant
related phrase	migrant worker/labor

Example 1 A lot of factory work is done by migrant workers.

Example 2 Migrant workers would be forced to leave their children behind in distant villages.

④ **applaud** [ə'plɔ:d] ***vi./vt.*** **(applauded/applauded/applauding)**

When a group of people applaud, they clap their hands in order to show approval, for example, when they have enjoyed a play or concert; When an attitude or action is applauded, people

praise it.

synonym admire; approve; celebrate; clap; congratulate; be favorable to
antonym boo; disapprove
word family applause
related phrase applaud performance/speech

Example 1 He started to applaud and the others joined in.

Example 2 Every person stood to applaud his unforgettable act of courage.

⑤ **defy** [dɪ'faɪ] ***vt.*** **(defied/defied/defying)**

If you defy someone or something that is trying to make you behave in a particular way, you refuse to obey them and behave in that way.

synonym challenge; confront; disobey; rebel; resist
antonym obey
word family defiance
related phrase defy description/analysis/belief/logic/the odds

Example 1 This was the first (and last) time that I dared to defy my mother.

Example 2 They believe it is essential to defy the convention.

⑥ **pounce** [paʊns] ***vi.*** **(pounced/pounced/pouncing)**

If someone pounces on something such as a mistake, they quickly draw attention to it, usually in order to gain an advantage for themselves or to prove that they are right.

synonym sweep down; bound on
related phrase pounce on

Example 1 The Democrats were ready to pounce on any Republican failings or mistakes.

Example 2 He pounced on the photographer, beat him up, and smashed his camera.

⑦ **prevail** [prɪ'veɪl] ***vi.*** **(prevailed/prevailed/prevailing)**

If a person, idea, or principle prevails in a fight, argument, etc., they are successful in the end.

synonym obtain; win; triumph; win through; succeed; be victorious; overcome
antonym fail
word family prevailing; prevalent; prevalence
related phrase prevail on/upon; prevail over

Example 1 He considered lying, but then common sense prevailed.

Example 2 She prevailed upon her father to say nothing. (Meaning: She persuaded her father to say nothing.)

⑧ **boycott** ['bɔɪkɒt] ***vt.*** **(boycotted/boycotted/boycotting)**

If a country, group, or person boycotts a country, organization, or activity, they refuse to be involved with it in any way because they disapprove of it.

synonym refuse; stay away from; embargo; shun; proscribe

Example 1 The main opposition parties are boycotting the elections.

Example 2 We boycott all products tested on animals.

⑨ **acute** [ə'kjuːt] ***adj.***

If a person's or animal's sight, hearing, or sense of smell is acute, it is sensitive and powerful; You can use acute to indicate that an undesirable situation or feeling is very severe or intense.

synonym	serious; bad; keen
word family	acutely; acuteness
related phrase	acute infection/shortage/sense/lung/stress

Example 1 When she lost her sight, her other senses grew more acute.

Example 2 The housing shortage is more acute than first thought.

⑩ **plunge** [plʌndʒ] ***vi./vt.* (plunged/plunged/plunging)**

If you plunge into an activity or are plunged into it, you suddenly get very involved in it.

synonym	plough into; throw one's self into
antonym	hesitate
word family	plunging; plunger
related phrase	plunge into

Example 1 The two men plunged into discussion.

Example 2 The prince should be plunged into work.

⑪ **outweigh** [aʊt'weɪ] ***vt.* (outweighed/outweighed/outweighing)**

If one thing outweighs another, the first thing is of greater importance, benefit, or significance than the second thing.

synonym	come before; take precedence over; overshadow; prevail over; dwarf

Example 1 The advantages of this deal largely outweigh the disadvantages.

Example 2 The benefits of the scheme outweigh the disadvantages.

⑫ **eminent** ['emɪnənt] ***adj.***

An eminent person is well-known and respected, especially because they are good at their profession.

synonym	well-known; renowned; important; distinguished; famous; outstanding; excellent; prominent; brilliant
antonym	unknown
word family	eminently; eminence
related phrase	eminent position/scientist

Example 1 School children from years 10–13 joined with eminent scientists to attend lectures, speeches, laboratory demonstrations and discussion groups.

Example 2 Although Darwin was the son and grandson of physicians, the most eminent doctors of the day were flummoxed by his symptoms.

⑬ **dismay** [dɪs'meɪ] ***n.***

Dismay is a strong feeling of fear, worry, or sadness that is caused by something unpleasant and unexpected.

synonym	disappointment; shock; consternation; apprehension; panic
antonym	comfort
word family	dismayed
related phrase	with/in dismay; to sb.'s dismay

Example 1 Local politicians have reacted with dismay and indignation.

Example 2 I found to my dismay that I had left my notes behind.

⑭ **accomplish** [ə'kʌmplɪʃ] ***vt.* (accomplished/accomplished/accomplishing)**

If you accomplish something, you succeed in doing it.

synonym	carry out; come true; perform; complete; fulfill
word family	accomplished; accomplishable; accomplishment
related phrase	accomplish one's goal/purpose/mission/feat/nothing

Example 1 If we'd all work together, I think we could accomplish our goal.

Example 2 It'll require indomitable will to accomplish the task.

⑮ **genius** ['dʒiːnɪəs] ***n.***

A genius is a highly talented, creative, or intelligent person; or a very high level of intelligence, mental skill, or artistic ability

synonym	mastermind; prodigy; whiz kid; brain; intellect
antonym	stupidity
related phrase	genius for sth./for doing sth.

Example 1 Chaplin was not just a genius; he was among the most influential figures in film history.

Example 2 The man had genius and had made his mark in the aviation world.

⑯ **expand** [ɪk'spænd] ***vt./vi.* (expanded/expanded/expanding)**

If something such as a business, organization, or service expands, or if you expand it, it becomes bigger and includes more people, goods, or activities.

synonym	enlarge; increase; swell; develop; inflate
antonym	contract
related phrase	expand on/upon sth.; expand into; expand business/market/demand/scope/industry

Example 1 China will further expand the scope of its opened-up areas.

Example 2 The hotel wants to expand its business by adding a swimming pool.

⑰ **heighten** ['haɪtn] ***vt./vi.* (heightened/heightened/heightening)**

If something heightens a feeling or if the feeling heightens, the feeling increases in degree or intensity.

synonym	intensify; amplify; increase; enhance; add to

related phrase heighten effect/sensation

Example 1 The move has heightened tension in the state.

Example 2 How do we heighten our happiness?

⑱ pull off

to succeed in achieving sth., especially sth. difficult

Example 1 The National League for Democracy pulled off a landslide victory.

Example 2 Already, doubters have emerged who believe Mr. Sokol won't be able to pull off the deals Mr. Buffett has.

⑲ follow in the footsteps of

to do the same things as they did earlier

Example 1 He felt honored to follow in the footsteps of some of his biggest influences.

Example 2 He responded by saying he wanted to follow in the footsteps of his idol, Steve Jobs.

⑳ dress to the nines

to put on very gorgeous or luxuriant clothes

Example 1 We dressed to the nines and lunched at Caviar Kaspia.

Example 2 At Google's holiday party, some employees dressed to the nines while others wore whatever they had on at work that day to enjoy an evening of food and music inside a music arena.

㉑ take issue with

to disagree with sb., and start arguing about sth.

Example 1 "I'm sure some will take issue with their conclusions," he says, "but this is a very significant study."

Example 2 Many now take issue with this view.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

averse	barber	Broadway	bumpy	celebrity
elite	facetious	fruition	granite	grievance
immigrate	imperative	inadvertent	Iran	mingle
Oscar	partition	plausible	proximity	satire
stealth	Trump	unravel	respite	warren
cult	humane	moderation	resurrect	weary
outcry				

Part 2 Text

After All the Crazy Oscar[1] Drama Live Onstage, One Idea Endures: the Power of Empathy

And the winner actually is …

The final-act confusion over the best picture award that had movie moguls staggering out of the Dolby Theater[2] in Hollywood after Sunday's Academy Awards was a fitting conclusion to a show that had been pulling off a more artful bait-and-switch[3] all night.

The expectation was that Hollywood would pounce on President Trump[4] as it had done throughout the awards season. The question on the minds of Oscar watchers going into the ceremony was who would be most likely to follow in Meryl Streep[5]'s Golden Globe[6] footsteps.

Would one of the acceptance speeches turn into a broadside? Would a presenter go rogue and prevail on Americans to rise up and boycott or would the political cult be reserved for the stealth satire of host Jimmy Kimmel, who in his opening monologue joked that "this broadcast is being watched in 225 countries that now detest us"?

Kimmel, whose demolition jobs are delivered with the smoothness of a barber giving an old-fashioned shave, had an irresistible target and he certainly got in his share of presidential licks. But there was another famous figure in his cross hairs, Matt Damon, the good-sport target of a fake celebrity feud[7].

It wasn't as if Kimmel lost sight of Trump during the ceremony. There was a facetious bit late in which he tweeted the Tweeter-in-Chief[8] to see if he might be secretly watching. (The absence of social media grudge from the White House prompted the check-in.) But Damon served as a jocular safety valve, rescuing Kimmel from becoming too focused on the elephant not in the room.

The Oscars has many different audiences, not all of them natural couch-fellows. Experiencing the ceremony from inside the Dolby Theater as a first-time attendee, I was fascinated by how the show managed the tightrope act of appealing to movie industry elites who dressed to the nines for the occasion and to the more casually attired viewers from all over the world who make up Hollywood's maddeningly heterogeneous consumer base.

Producer Marc Platt, accepting the best picture award for *La La Land*[9] (before it was discovered that, oops, the winner was really *Moonlight*[10]), delivered an eloquent speech in which he made the distinction between "the Hollywood community" that he was so proud to be part of and "the Hollywood in the hearts and minds of people everywhere". The show, acutely conscious of these two groups, found a way to speak simultaneously to them by appealing to what unites them—the basic human need to connect through storytelling.

The word of the night was "empathy", which liberals would be quick to read as an antonym of "Trump" and conservatives as a code for Trump-bashing. But Viola Davis[11] unravelled the meaning in the context of the arts when she movingly accepted the supporting actress award for her performance in *Fences*.

Speaking with the intense emotional lucidity that is the hallmark of her acting, she immediately got down to brass tacks[12]: "You know, there's one place that all the people with the greatest potential are gathered. One place. And that's the graveyard."

Her mission as an actress, she said, is to excavate those bodies. Excavate those stories. The stories of the people who dreamed big, and never saw those dreams to fruition. The kind of ordinary lives August Wilson[13] the author of *Fences*, plunged his exemplary career to resurrecting. "I became an artist and thank God I did because we are the only profession that celebrates what it means to live a life," Davis said, transcending politics with the humanism of art.

There were speeches that editorialized more explicitly on Trump's policies. Gael Garcia Bernal took issue with the White House's immigration plans, saying, "As a Mexican, as a Latin American, as a migrant worker, as a human being, I am averse to any form of wall that wants to separate us." And a statement from Iranian director Asghar Farhadi, whose movie *The Salesman* received the foreign film award, explained that his absence was "out of respect for the people of my country and those of other six nations who have been disrespected by the inhumane law that bans entry of immigrants to the U.S.[14]".

It was interesting to see up-close the mixed reaction to these political moments at the Dolby, where those not applauding were as conspicuous as those who were. Support for these positions clearly outweighed the silence, but "liberal Hollywood" isn't the monolith imagined in conservative grievance. Some in the audience were simply not comfortable in expressing a political opinion, but a few others appeared to be wearing a look of weary moderation.

No one, however, could argue with the basic thrust of the evening that partitioning people into enemy camps isn't the way to move forward or to stay sane. Opposition, as the eminent Shakespearean actor Mark Rylance observed while presenting the supporting actress award, shouldn't have to devolve into hatred. Even a liberal granite like Warren Beatty hewed to this message, prefacing his presentation of the night's final award with the idea that "our goal in politics is the same as our goal in art. And that is to get to the truth".

The truth that collected trophies on Sunday was more diverse than the previous year that gave us the hashtag "Oscars-So-White". This was a cause of celebration. The academy had taken steps to respond to the outcry that it wasn't doing enough to expand its tent. Hollywood still has deep-embedded structural problems, but the Oscars had reason to pat itself on the back, even if the bungling of the evening's top prize cheated *Moonlight*, the first LGBT[15] film to win for the best picture, of its turn in the sun.

Audience members at the Dolby, many of whom were connected to particular films, didn't know how to react when it was announced that *La La Land* had been mistakenly given the award. Some supporters of the film shook their heads in dismay while *Moonlight* champions, given an unexpected respite, seemed to distrust their joyous windfall. It was a plausible ending, but progress can be a bumpy ride and there was happy amazement that a small-budget film about a young gay protagonist of color managed to accomplish such a feat.

As a theater critic, I was heartened to see the way theater and film have become so entwined (an especially fetching sight on Tony[16]-winning scenic designer Derek McLane's gorgeous Hollywood Golden Age set). Picking up awards were playwrights (Kenneth Lonergan, the writer and director of *Manchester by the Sea*[17], and Tarell Alvin McCraney, whose play gave rise to *Moonlight*), Broadway songwriters (Benj Pasek and Justin Paul of the Broadway hit *Dear Evan Hansen*, who contributed to the songs of *La La Land*) and actors with deep theatrical roots (such as the Juilliard-trained Davis, a Tony and Obie[18] winner, and NYU-trained Mahershala Ali[19], who thanked his illustrious acting teachers).

Lin-Manuel Miranda (the suddenly ubiquitous genius behind "Hamilton") and Sara Bareilles (the stunningly talented singer-songwriter who wrote the score for the Broadway musical *Waitress*) added to the polished verve of the show through their musical performances. All of the numbers were executed with such Broadway precision that I kept forgetting that they were being televised worldwide.

As Hollywood seeks to expand its range of stories, it only makes sense that it would turn to the theater, which has traditionally been more welcoming of marginalized voices. Embracing diversity not as a political platform but as a human imperative is an effective way of defying the charge of elitism that has been leveled at the arts by conservative ideologues.

The one discordant note of the evening was the overextended segment in which Kimmel had tourists troop through the glamorous audience and intermingle with their favorite stars. In a show that was all about dissolving the line between us and them, this comedy routine inadvertently heightened the old divisions while chasing after cheap laughs.

But this was the exception in a highly theatrical night that was brilliantly calibrated to remind us of the power artists have to unite us through cinematic storytelling. It is through this wizardly lens that the most distant and disparate lives are brought into close proximity and the strange suddenly become uncannily familiar.

(Adapted from "After All the Crazy Oscar Drama Live Onstage, One Idea Endures: the Power of Empathy", written by Charles McNulty, from *Los Angeles Times*)

Notes



Oscar

The Academy Awards, affectionately known as the Oscars, are the best-known, most influential, most prestigious and famous annual film awards of merit given to film actors, artists, directors, cinematographers and technicians by the Academy of Motion Picture Arts and Sciences.

Oscars' red carpet extends the length and breadth of America. Each spring, the thrill of walking down the red carpet on Oscar Night won't be felt by the stars in Hollywood alone, but nearly a billion viewers in about 100 countries all over the world.

The award is in the form of 13.5-inch-high (34 cm) gold-plated statuette nicknamed "Oscar", when an academy member noted its resemblance to her uncle Oscar. Mr. Oscar—a knight holding a crusader's sword, standing on a reel of film with five spokes—was designed by MGM (Oscar's chief art director Cedric Gibbons, and stands today, as it has since 1929, without peer, as the most recognized symbol of achievement in filmmaking).

When the first Academy Awards were handed out on May 16, 1929, movies had just begun to talk. The first Awards ceremony took place during a banquet held in the Blossom Room of the Hollywood Roosevelt Hotel. The attendance was 270 and tickets cost $5.

② the Dolby Theater

The Dolby Theater (formerly known as the Kodak Theater) is a live-performance auditorium in the Hollywood and Highland Center shopping mall and entertainment complex, on Hollywood Boulevard and Highland Avenue, in the Hollywood district of Los Angeles, United States. Since its opening on November 9, 2001, the theater has hosted the Academy Awards ceremonies (the Oscars), initially held there in March 2002.

③ bait-and-switch

A deceptive way of selling that involves advertising a product at a very low price in order to attract customers who are then persuaded to switch to a more expensive product.

④ President Trump

Donald John Trump (born on June 14, 1946) is an American businessman, television personality, politician, and the 45th President of the United States. Trump won the general election on November 8, 2016, in a surprise victory against Democratic opponent Hillary Clinton. He became the oldest and wealthiest person to assume the presidency, the first without prior military or government service, and the fifth elected with less than a plurality of the national popular vote.

His political positions have been described by scholars and commentators as populist, protectionist, and nationalist. However, his controversial remarks concerning racism, sexism, and immigrants along with his personal style have rendered him subsequent notoriety and vast boycott amongst people, particularly feminists in Hollywood.

⑤ Meryl Streep

Mary Louise "Meryl" Streep (born on June 22, 1949) is an American actress of stage and screen, and philanthropist. Cited in the media as the "best actress of her generation"—a designation to which she objects—Streep is particularly known for her versatility in her roles, transformation into the characters she plays, and her accent adaptation. Nominated for 21 Academy Awards in total, Streep has more nominations than any other actor or actress; she won Best Supporting Actress for *Kramer vs. Kramer* (1979), and Best Actress for *Sophie's Choice* (1982) and *The Iron Lady* (2011).

Streep has also received 31 Golden Globe nominations, winning eight—more nominations, and more competitive (non-honorary) wins than any other actor (male or female). In 2017, she was awarded the Golden Globe Cecil B. DeMille Lifetime Achievement Award wherein she delivered the famous Trump-bashing speech.

⑥ Golden Globe

Golden Globe Awards is a film and television Awards in America, held in Hollywood. Since 1944, this award has been held once a year. The final results of the award is composed of 96 journalists (of which about 2/3 are part-time) vote. Until 2003, the Golden Globe Awards dinner has been held a few days before the Oscar prize in America, Academy of Motion Picture Arts and Sciences. After 2003, the Golden Globe Awards has been held every year in mid January to late February to show the difference with the Oscar Awards ceremony.

⑦ celebrity feud

James Christian "Jimmy" Kimmel (born on November 13, 1967) is an American television host, comedian, writer, and producer. He is the host and executive producer of *Jimmy Kimmel Live!*, a late-night talk show that premiered on ABC in 2003. Kimmel hosted the Primetime Emmy Awards in 2012 and 2016. He hosted the Academy Awards in February 2017.

Matthew Paige Damon (['demən]; born on October 8, 1970) is an American actor, film producer, and screenwriter. He is ranked among Forbes magazine's most bankable stars and is

one of the highest-grossing actors of all time. Damon has received various accolades, including an Academy Award from five nominations, two Golden Globe Awards from eight nominations, and has been nominated for three British Academy Film Awards and six Emmy Awards.
Ever since nearly Jimmy Kimmel show's inception, he has closed every episode with "Apologies to Matt Damon, we ran out of time". Despite regular appearances to play off the gag, Matt Damon appeared on *Jimmy Kimmel Live!* as a legitimate guest only for one time—February 27, 2017. In any other occasions these indeed two friends to seemingly foe games, were known as "Kimmel-Damon Fake Feud".

⑧ Tweeter-in-Chief

Donald J. Trump is the commander-in-chief of U.S.A., but also a tweeter addict.

⑨ *La La Land*

La La Land is a 2016 American musical film written and directed by Damien Chazelle, and starring Ryan Gosling and Emma Stone as a musician and an aspiring actress who meet and fall in love in Los Angeles. The film's title refers both to the city of Los Angeles and to the idiom for being out of touch with reality.
The film received 14 nominations at the 89th Academy Awards, tying the record for the most Oscar nominations with *Titanic* (1997) and *All About Eve* (1950), and won the awards for Best Director, Best Actress (Stone), Best Cinematography, Best Original Score, Best Original Song (*City of Stars*) and Best Production Design.

⑩ *Moonlight*

Moonlight is a 2016 American, coming-of-age, drama film written and directed by Barry Jenkins based on Tarell Alvin McCraney's unpublished semi-autobiographical play *In Moonlight Black Boys Look Blue*. It stars Trevante Rhodes, André Holland, Janelle Monáe, Ashton Sanders, Jharrel Jerome, Naomie Harris, and Mahershala Ali.
It became the first film with an all-black cast, the first LGBT film, and the second lowest-grossing film domestically (behind *The Hurt Locker*) to win the Best Picture award. The film's editor, Joi McMillon, became the first black woman to be nominated for an editing Oscar (alongside co-editor Nat Sanders), and Ali became the first Muslim to win an acting Oscar.

⑪ Viola Davis

Viola Davis (born on August 11, 1965) is an American actress and producer. She is the first black actress to be nominated for three Academy Awards, winning one, and is the only black actress or actor to win the Triple Crown of Acting. In 2012 and 2017, she was listed by *Time* magazine as one of the 100 most influential people in the world. Since 2014, Davis has played lawyer Annalise Keating in the ABC television drama, *How to Get Away with Murder*, and in 2015 she became the first black woman to win the Primetime Emmy Award for Outstanding Lead Actress in a Drama Series. She is also known for her stimulating speeches given at a few major award ceremonies either as a presenter or a winner.

⑫ brass tacks

Brass tacks are a type of pin or nail. In colloquial English, the phrase to come (or get) down to brass tacks is sometimes used idiomatically meaning to consider the basic facts of a situation.

⑬ August Wilson

The author of *Fences*, a 2016 American drama film directed by and starring Denzel Washington. It is based on Wilson's Pulitzer Prize-winning play of the same name (he died in 2005, but completed a screenplay before his death).

Wilson's best-known plays besides *Fences* (1985) (which won a Pulitzer Prize and a Tony Award) are *The Piano Lesson* (1990) (a Pulitzer Prize and the New York Drama Critics' Circle Award), *Ma Rainey's Black Bottom* and *Joe Turner's Come and Gone*.

⑭ law that bans entry of immigrants to the U.S.

Illegal immigration was a signature issue of U.S. President Donald Trump's presidential campaign, and his proposed reforms and remarks about this issue generated much publicity. A hallmark promise of his campaign was to build a substantial wall on the United States-Mexico border. Trump has also expressed support for a variety of "limits on legal immigration and guest-worker visas", including a "pause" on granting green cards, which Trump says will "allow record immigration levels to subside to more moderate historical averages".

On January 27, 2017, Trump signed an executive order (Number 13769), titled "Protecting the Nation from Terrorist Attacks by Foreign Nationals", that suspended entry for citizens of seven countries for 90 days: Iraq, Iran, Libya, Somalia, Sudan, Syria, and Yemen, totaling more than 134 million people. The order also stopped the admission of refugees of the Syrian Civil War indefinitely, and the entry of all refugees to the United States for 120 days. Refugees who were on their way to the United States when the order was signed were stopped and detained at airports.

Iranian director Asghar Farhadi, whose movie *The Salesman* received the foreign film award had been rejected the entry into the U.S. before the Oscars.

⑮ LGBT

LGBT is an initialism that stands for lesbian, gay, bisexual, and transgender.

⑯ Tony

The Antoinette Perry Award for Excellence in Broadway Theater, more commonly known as the Tony Award, recognizes achievement in live Broadway theater. The awards are presented by the American Theater Wing and The Broadway League at an annual ceremony in New York City. The awards are given for Broadway productions and performances, and an award is given for regional theater. Several discretionary non-competitive awards are also given, including a Special Tony Award, the Tony Honors for Excellence in Theatre, and the Isabelle Stevenson Award. The awards are named after Antoinette "Tony" Perry, co-founder of the American Theater Wing.

⑰ *Manchester by the Sea*

Manchester by the Sea is a 2016 American drama film written and directed by Kenneth Lonergan and starring Casey Affleck (Ben Affleck's younger brother), Michelle Williams, Kyle Chandler, and Lucas Hedges. The plot follows a man who looks after his teenage nephew after his brother dies.

The film premiered at the Sundance Film Festival on January 23, 2016 and was soon picked up by Amazon Studios for distribution. It began a limited release on November 18, 2016, before

going wide on December 16, 2016. The film grossed $79 million worldwide against an $8.5 million budget.
At the 89th Academy Awards, the film received six nominations: Best Picture, Best Director, Best Actor (Affleck), Best Supporting Actor (Hedges), Best Supporting Actress (Williams) and Best Original Screenplay, winning for Best Original Screenplay and Best Actor. It also won the Golden Globe Award for Best Actor and was nominated in four more categories.

⑱ Obie

The Obie Awards or Off-Broadway Theatre Awards are annual awards originally given by *The Village Voice* newspaper to theater artists and groups in New York City. In September 2014, the Awards were jointly presented and administered with the American Theater Wing. As the Tony Awards cover Broadway productions, the Obie Awards cover Off-Broadway and Off-Off-Broadway productions.

⑲ Mahershala Ali

"Mahershala" Ali ([mə'hɜːrʃələ]; born with Mahershalalhashbaz Ali Gilmore; on February 16, 1974) is an American actor and rapper. For his performance as mentor Juan in the drama film *Moonlight* (2016), Ali received universal acclaim from critics and won the Academy Award, the SAG Award and the Critics' Choice Award for Best Supporting Actor, and received a Golden Globe and a BAFTA Award nomination. His win at the 89th Academy Awards made him the first Muslim actor to win an Oscar.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What happened at the "Oscars" back on February 26, 2017?
2) Some critics are of the opinion that what happened that night is nothing but a conspiracy. Do you believe so? Why?
3) Many maintain that inspirational romances of beauties, rallying cries for racial equality and rebuttals against LGBT discrimination have long been the old chestnuts in American cinema timetables. What's your idea about such genres?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The actual winner of the best picture award is *Moonlight* producer Marc Platt.
2) ________ Damon helped to rescue Kimmel from becoming too concentrated on the problem existing obviously but neglected deliberately.
3) ________ I was fascinated by the Oscar awarding ceremony because it was the first time for me to attend the ceremony from inside the Dolby Theater.
4) ________ The intense emotional lucidity is the hallmark of Viola Davis's acting.

5) ________ Iranian director Asghar Farhadi didn't attend the ceremony out of respect for the people of his country and those of other six nations who had been disrespected by Trump's immigration policy.

6) ________ *Moonlight* is a small-budget film about a young gay protagonist of color.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

eloquent	celebrity	acute	fruition	resurrect	humane	applaud	devolve
weary	genius	dismay	imperative	mingle	technician	blossom	

1) The United States had previously expressed ________ over the government's decision to hold the elections without an actual voter list.
2) If we could move those ideas from fuzzy to ________, that would be a remarkable thing.
3) Last year's event was attended by 1,000 plus attendees and it will be an opportunity for you to really ________ and to conclude the course with a look at your and other friends' projects.
4) So even if Judgement Day would come, and the God would reassemble the molecules and ________ the body, it's not the very same body that you started out with.
5) The king had little choice but to accept the fait accompli: power was henceforth to ________ from an absolute monarchy to a parliamentary constitution.
6) Before the 20th century, most are handwritten, some with graceful, flowing script, and are equally ________ in their language.
7) One tactic he employs: a special breathing-relaxation technique originally developed for hospital patients in ________ stress.
8) Shops are flooded with cherry ________ merchandise and food, the colour pink suddenly popping up in decorative garlands and flower-shaped sweets.
9) Interactional excellence, where a personal experience and relationship is created and fostered, is ________ for success.
10) Some longtime advocates for assault victims say they've grown ________ of promises to do better.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Kimmel, whose demolition jobs are delivered with the smoothness of a barber giving an old-fashioned shave, had an irresistible target, and he certainly got in his share of presidential licks.
2) The word of the night was "empathy", which liberals would be quick to read as an antonym of "Trump" and conservatives as a code for Trump-bashing.
3) Speaking with the intense emotional lucidity that is the hallmark of her acting, she immediately got down to brass tacks: "You know, there's one place that all the people with the greatest potential are gathered. One place. And that's the graveyard."

4) It was interesting to see up-close the mixed reaction to these political moments at the Dolby, where those not applauding were as conspicuous as those who were.
5) Hollywood still has deep-embedded structural problems, but the Oscars had reason to pat itself on the back, even if the bungling of the evening's top prize cheated *Moonlight*, the first LGBT film to win for the best picture, of its turn in the sun.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the following words given below.

eminent	eloquent	accomplish	genius	grievance	emotive
deliver	explicit	announce	stunning	applaud	bliss

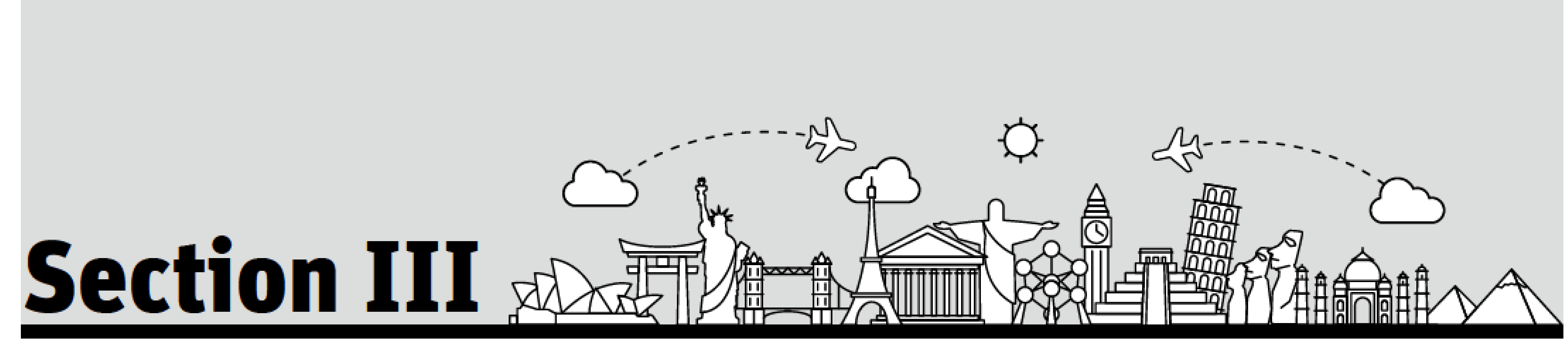
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) le	a. a crust discharged from and covering a healing wound
2) coo	b. to annoy by constant scolding, complaining, or urging
3) kip	c. to expel intestinal gas through the anus
4) ballot	d. a sharp spadelike tool used for rooting or digging out weeds
5) scab	e. the French equivalent of "the"
6) chorus	f. full of or characterized by frenetic activity or wild excitement
7) nag	g. used as a disparaging term for a lesbian
8) append	h. to add as a supplement or appendix
9) rem	i. to sleep
10) fart	j. a group of singers who perform together, usually singing multi-part compositions with more than one singer for each part
11) dyke	k. a space for a vessel to dock or anchor
12) manic	l. the act, process, or method of voting, especially in secret
13) berth	m. the hard fatty tissues around the kidneys of cattle and sheep, used in cooking and for making tallow
14) spud	n. a unit for measuring absorbed doses of radiation, equivalent to one roentgen of x-rays or gamma rays
15) suet	o. to utter the murmuring sound of a dove or pigeon or a sound resembling it

2. *Directions: Please complete the following table to switch the part of speech of the given words.*

Noun	Verb	Adjective	Adverb
		prestigious	
proximity			
		weary	
	devolve		
			inadvertently



Section III

Text B: From Fantasy to Reality—Beauty and the Beast

Part 1 Power of Words

Core Words

① **advent** ['ædvent] ***n.***

The advent of an important event, invention, or situation is the fact of it starting or coming into existence.

synonym	coming; arrival; start; beginning; dawn; initiation
antonym	departure
related phrase	the advent of sth.

Example 1 The advent of the computer has brought this sort of task within the bounds of possibility.

Example 2 When I met him in 2002, he seemed mostly depressed by the advent of the Web.

② **benevolent** [bə'nevələnt] ***adj.***

If you describe a person in authority as benevolent, you mean that they are kind and fair.

synonym	friendly; sweet; humane; benign; kind; caring; compassionate; generous
antonym	evil; malevolent
word family	benevolence; benevolently

Example 1 The company has proved to be a most benevolent employer.

Example 2 A benevolent uncle paid for her to have music lessons.

③ **cherish** ['tʃerɪʃ] ***vt.*** **(cherished/cherished/cherishing)**

If you cherish something, it is very important to you.

synonym	treasure; value; appreciate; prize; relish; imbosom
antonym	neglect
word family	cherished
related phrase	cherish a dream/a memory/a hope/an idea/time

Example 1 Thankfully, you were always there to help, and I will always cherish that.

Example 2 Cherish the people around, because you do not know what will happen the next second.

④ **default** [dɪ'fɔːlt] ***n.***

failure to do something that must be done by law, especially paying a debt

synonym	avoidance; evasion; nonappearance; nonattendance
antonym	pay
word family	defaulting
related phrase	by default

Example 1 The corporation may be charged with default on its contract with the government.

Example 2 The bank can seize the asset in the event of a default in payment.

⑤ **embody** [ɪm'bɒdɪ] ***vt.*** **(embodied/embodied/embodying)**

To embody an idea or quality means to be a symbol or expression of that idea or quality.

synonym	exemplify; symbolize; represent; personify; express
word family	embodiment

Example 1 Jack Kennedy embodied all the hopes of the 1960s.

Example 2 She embodies everything I admire in a teacher.

⑥ **innovative** ['ɪnəˌveɪtɪv] ***adj.***

Something that is innovative is new and original; An innovative person introduces changes and new ideas.

synonym	groundbreaking; advanced; state-of-the-art; pioneering; inventive
antonym	outdated
word family	innovate; innovation; innovator
related phrase	innovative design/idea/thinking/method/work/business

Example 1 They sell products which are cheaper, more innovative and more reliable than those of their competitors.

Example 2 He was one of the most creative and innovative engineers of his generation.

⑦ **meditate** ['medɪteɪt] ***vi.*** **(meditated/meditated/meditating)**

If you meditate on something, you think about it very carefully and deeply for a long time.

synonym	contemplate; ponder; think; consider; deliberate
word family	meditation; meditator
related phrase	mediate on

Example 1 She sat quietly, meditating on the day's events.

Example 2 On the day her son began school, she meditated on the uncertainties of his future.

⑧ **predecessor** ['priːdəsesə] ***n.***

Your predecessor is the person who had your job before you.

synonym	precursor; forerunner; ancestor; antecedent; prototype
antonym	successor

Example 1 He maintained that he learned everything he knew from his predecessor.

Example 2 Kennedy's predecessor as President was the war hero Dwight Eisenhower.

⑨ **safeguard** ['seɪfgɑ:d] ***vt.*** **(safeguarded/safeguarded/safeguarding)**

To safeguard something or someone means to protect them from being harmed, lost, or badly treated.

synonym	protect; defense; take safety measure
antonym	endanger
related phrase	safeguard interest/security/peace/right/welfare

Example 1 They will press for international action to safeguard the ozone layer.

Example 2 Safeguard your passwords and change them frequently.

⑩ **waive** [weɪv] ***vt.*** **(waived/waived/waiving)**

If you waive your right to something such as legal representation, you choose not to have it or do it.

synonym	surrender; give up; yield; quit; relinquish; put aside; ignore
antonym	retain
word family	waiver
related phrase	waive right/requirement/rule/fee/claim

Example 1 He pleaded guilty to the murders of three boys and waived his right to appeal.

Example 2 You agree to waive the claim, which speaks well for your friendly attitude and close cooperation.

⑪ **colossal** [kə'lɒsl] ***adj.***

If you describe something as colossal, you are emphasizing that it is very large.

synonym	huge; massive; immense; gigantic; oversize
antonym	tiny
word family	colossally
related phrase	colossal scale/mistake/task/statue

Example 1 Even by modern standards, the 46,000 ton Titanic was a colossal ship.

Example 2 There has been a colossal waste of public money.

⑫ **lucrative** ['lu:krətɪv] ***adj.***

A lucrative activity, job, or business deal is very profitable.

synonym	profitable; well-paid; rewarding; worthwhile; money-spinning
antonym	unprofitable
word family	lucratively; lucre
related phrase	lucrative business/market/contract

Example 1 Thousands of ex-army officers have found lucrative jobs in private security firms.

Example 2 He inherited a lucrative business from his father.

⑬ **acclaim** [ə'kleɪm] ***n./vt.***

Acclaim is public praise for someone or something.

synonym	applause; approbation; approval; commendation
antonym	disapproval
word family	acclaimed; acclamation
related phrase	critical/great acclaim

Example 1 Angela Bassett has won critical acclaim for her excellent performance.

Example 2 He was acclaimed as China's greatest modern painter.

⑭ **animated** ['ænɪmeɪtɪd] ***adj.***

An animated film is one in which puppets or drawings appear to move; Someone who is animated or who is having an animated conversation is lively and is showing their feelings.

synonym	living; alive; live; breathing; flesh and blood
antonym	inanimate
word family	animate; animation
related phrase	animated cartoon/film

Example 1 Disney has returned to what it does best: making full-length animated feature films.

Example 2 She was seen in animated conversation with the singer Yuri Marusin.

⑮ **renown** [rɪ'naʊn] ***n.***

A person of renown is well-known, usually because they do or have done something good.

synonym	fame; celebrity; prestige; repute; prominence
antonym	obscurity; notoriety
word family	renowned
related phrase	great renown

Example 1 She used to be a singer of some renown.

Example 2 His renown has spread throughout the country.

⑯ **narration** [nə'reɪʃn] ***n.***

a spoken description or explanation which is given during a film, or a play; the act of telling a story

synonym	telling; recitation; unfolding; tale; account
word family	narrate; narrator

Example 1 He gave a brief narration at the meeting about what happened that day.

Example 2 He made a clear narration of the incident.

⑰ **aesthetics** [es'θetɪks] ***n.***

Aesthetics is a branch of philosophy concerned with the study of the idea of beauty.

synonym	esthetics
word family	aesthetic; aesthetical; aesthetically; aesthetician

Example 1 Improved housing has also contributed to a sharpened sense of aesthetics.

Example 2 Translation study is in a direction of combination of aesthetics and translation.

⑱ **tickle** ['tɪkl] ***n./vt.*** **(tickled/tickled/tickling)**

When you tickle someone, you move your fingers lightly over a sensitive part of their body, often in order to make them laugh; a feeling in your throat that makes you want to cough

synonym please; glad; satisfy; content; scratch; itch; amuse

word family tickler; tickling

related phrase be tickled pink; tickle sb.'s fancy

Example 1 I was tickling him, and he was laughing and giggling.

Example 2 Wilson was feeling restless. There was a tickle in his throat.

⑲ **guise** [gaɪz] ***n.***

You use guise to refer to the outward appearance or form of someone or something, which is often temporary or different from their real nature.

synonym appearance; costume; disguise; dress; excuse

word family disguise; guiser

related phrase under the guise of; in the guise of

Example 1 He turned up at an Easter party in the guise of a white rabbit.

Example 2 They operated a drug-smuggling business under the guise of an employment agency.

⑳ **endear oneself to**

to become popular with, or be well liked by

Example 1 She endeared herself to all her friends.

Example 2 His kindness of heart endeared him to all.

㉑ **in the midst of**

during; at the moment of

Example 1 The students were in the midst of a lively discussion when the teacher came in.

Example 2 I never imagined I would be writing a book in the midst of an economic crisis unlike any we have seen in decades.

㉒ **bring down the house**

The audience claps, laughs, or shouts loudly because the performance or speech is very impressive or amusing.

Example 1 Whenever we have a family gathering, my father always tells jokes that bring down the house.

Example 2 John is a funny comedian. His jokes always bring down the house.

㉓ by default

If something happens by default, it happens because you did not do anything to change it.

Example 1 By default I have 30 seconds to do something with the message.

Example 2 Yet, Clinton's popularity is by default since many Chinese can't even name any other candidates.

㉔ battle it out

to take part in a fight or contest against each other until one of them wins or a definite result is reached

Example 1 Boxing, where two individuals battle it out in the ring, in Cuba is a team sport.

Example 2 We enjoy watching our favorite teams battle it out on the field for the championship title.

㉕ be my guest

to give somebody permission to do something

Example 1 Sue says, "Fine, be my guest," meaning okay, you go ahead and you plan the vacation.

Example 2 He will be my guest here for a live interview at 1:00 p.m. Eastern on Friday, May 17, 2017.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

affiliation	alas	atrocious	ballroom	begrudge
bland	bloat	buddy	casserole	chatter
chubby	commonplace	crutch	dissatisfactory	dynamo
fable	feminist	flirtation	fluorescent	genre
gigantic	hubby	innocuous	loony	lush
Madame	niche	nonetheless	orgy	pastime
quaintly	rejoiced	rephrased	reputable	reputation
robust	stalk	substantive	teapot	transparent
ware	wishful			

Part 2 Text

From Fantasy to Reality—Beauty and the Beast

Hollywood, with colossal enthusiasm, has long been trying to endear itself to children. It thus looks upon fairy tales with profound favor, for, of all possible genres, fairy tales have been a substantive gold-mine as a lucrative source of themes for children's pastime. In the midst of various fairy tales the one originally written to prepare young girls in 18th century France for arranged marriages somehow

becomes the fair-haired boy—"Beauty and the Beast", an European story that has been imported onto screen for six times and, with no exception, received universal critical acclaim.

Amongst these adaptations, Disney has produced two, one for animated, the other live-action, and both the "fantasy" in 1991 and the "reality" in 2017 attained substantial box office and wild welcome worldwide. Following are reviews upon the aforesaid films written by the renowned Roger Ebert and USA TODAY columnist Susan Wloszczyna. Let's take a closer look at how on earth the Disney captured its fans from "fantasy" to "reality".

Roger Ebert

Beauty and the Beast slipped around all my roadblocks and penetrated directly into my strongest childhood memories, in which animation looked more plausible than live-action features. Watching the movie, I found myself caught up in a transparent and rejoiced way. I wasn't reviewing an "animated film". I was being told a story, I was hearing terrific music, and I was having fun.

The film's reputation is as good as any Disney animated feature ever made—as magical as *Pinocchio*, *Snow White*, *The Little Mermaid*. And it's a reminder that animation is the ideal medium for fantasy, because all of its fears and dreams can be made literal. No Gothic castle in the history of horror films, for example, has ever approached the awesome, sinister towers of the castle where the Beast lives. And no real wolves could have fangs as sharp or eyes as fluorescent as the wolves that stalk in the castle woods.

The movie's story, somewhat altered from the original fable, involves a beauty named Belle, who lives in the worlds of her favorite library books and is repelled by the romantic advances of Gaston, the muscle-bound cretin in her little 18th century French village. Belle's father, a loony inventor, sets off on a journey through the forest, takes a wrong turn, and is imprisoned in the castle of the Beast. And Belle bravely sets off on a mission to rescue him.

We already know, from the film's opening narration, that the Beast is actually a handsome young prince who was transformed into a hideous monster as a punishment for being atrocious. And a beast he will be forever, unless he finds someone who will love him. When Belle arrives at the castle, that life-saving romance is set into motion—although not, of course, without grave adventures to be overcome.

Like all of the reputable Disney animated films, *Beauty and the Beast* surrounds its central characters with a large peanut gallery of gossipy, chattering supporting players. The Beast's haunted castle contains household objects that act as his serving staff, and so we meet Lumiere, a candlestick; Cogsworth, a clock; and Mrs. Potts, a teapot with a little son named Chip. These characters are all naturally on Belle's side, because they want to see the Beast freed from his magic spell.

There are some wonderful musical numbers in the movie, and animation sets their choreography free from the laws of gravity. A hilarious number celebrates the monstrous ego of Gaston, who boasts about his hairy chest and the antlers he uses for interior decoration. "Be Our Guest" is a rollicking invitation to Belle from the castle staff, choreographed like Busby Berkeley running amok. And there is the haunting title song, sung by Mrs. Potts in the voice of Angela Lansbury.

The songs have lyrics by the late Howard Ashman and music by Alan Menken, the same team who collaborated on *The Little Mermaid*, and they bubble with wit and energy ("Gaston" in particular brings down the house). Lansbury is one of a gifted cast on the soundtrack, which

also includes Paige O'Hara as the plucky Belle; Robby Benson (his voice sounding electronically lowered) as Beast; Jerry Orbach as the candlestick who sounds uncannily like Maurice Chevalier; David Ogden Stiers as the cranky Cogsworth, and Richard White as the insufferable Gaston, who degenerates during the course of the film from a chauvinist pig to a sadistic monster.

Beauty and the Beast, like 1989's *The Little Mermaid*, embodies a new energy and creativity from the Disney animation people. They seem to have waived all notions that their feature-length cartoons are intended only for younger viewers, and these aren't children's movies but robust family entertainment.

Perhaps it is inevitable, in an age when even younger kids see high-voltage special effects films like *Die Hard*[1] or *Terminator 2*[2], that animation could no longer be content with bland and innocuous fairy tales. What a movie like *Beauty and the Beast* does, nonetheless, is to give respect to its audience.

A lot of "children's movies" seem to expect people to buy tickets by default, because of what the movie doesn't contain (no sex, vulgarity, etc.). *Beauty and the Beast* reaches back to an older and healthier Hollywood tradition in which the best writers, musicians and filmmakers are gathered for a project on the assumption that a family audience deserves great entertainment, too.

(Adapted from "Beauty and the Beast", http://www.rogerebert.com/reviews/beauty-and-the-beast-1991, written by Roger Ebert)

Susan Wloszczyna

Once upon a time, before the acronyms VHS and DVD were commonplace, Disney would quaintly safeguard such animated classics as *Snow White and the Seven Dwarfs* and *Pinocchio* like priceless gems while benevolently re-issuing them every few years on the big screen before stashing them back in the studio vault.

But in the 1990s, with the advent of home entertainment, the studio started to meditate on new ways beyond revivals to cash in on the same beloved stories. First came Broadway productions, followed by direct-to-video sequels, TV series spinoffs and then, starting in 2010 with Tim Burton's effects-laden *Alice in Wonderland*[3], digitally-enhanced live-action renditions.

It was therefore all but inevitable that a property as adored as 1991's *Beauty and the Beast*, the first animated film to not just compete in Oscar's Best Picture category but also top the $100 million box-office mark, would receive a 21st-century makeover after *Cinderella* and *The Jungle Book*[4] followed the rousing $1 billion worldwide box-office reception for *Alice in Wonderland*.

The bottom line: This gloriously old-fashioned musical with gee-whiz trappings is a dazzling aesthetics to behold (with enough Rococo gold decor to gild all of Trump's properties) and is anything but a beastly re-interpretation of a fairy tale as old as time. Also welcome is the more inclusive display of love in its various forms, which go beyond the sweetly awkward courtship between brainy, brave and independent-minded bookworm Belle (Emma Watson, much cherished for her gutsy portrayal of Hermione Granger in the eight Harry Potter films) and the cursed prince in the ill-tempered guise of a ram-horned bison-faced creature (Dan Stevens of *Downton Abbey*, whose sensitive blue eyes serve him well amid (midst) all his CGI[5] faux-fur trappings.).

As for that "exclusively gay moment" you have been hearing about, it appears near the conclusion when LeFou, a comic-relief character brought to life by Josh Gad (the voice of Olaf the snowman in *Frozen*[6]) who clearly has an unrequited man-crush on his bulky and boorish buddy

Gaston (Luke Evans of *The Girl on the Train*), fleetingly dances with a male partner. That's it. If your kids aren't freaked out by Michael Keaton's coy in-the-closet Ken doll in *Toy Story 3*[7], they will be fine here—especially considering the central relationship in this PG-rated fantasy basically promotes bestiality.

Still, this is a much denser—and longer, by a considerable 45 minutes—confection, one that doesn't always go down as easily as the less-adorned yet lighter-than-air angel food cake that was the original. It's true that my heart once again went pitty-pat during the ballroom waltz as Emma Thompson voicing Mrs. Potts honors her sublime teapot predecessor Angela Lansbury by warmly warbling the title theme. But I couldn't help but feel that the more-is-more philosophy that lurks behind many of these remakes weighs down not just the story but some key performances. This "Beauty" is too often beset by blockbuster bloat.

The familiar basics of the plot are the same as Maurice, Belle's father (Kevin Kline, whose sharp skills as a farceur are barely employed), is imprisoned by the Beast inside his forbidding castle for plucking a rose from his garden and Belle eventually offers to take her papa's place. Meanwhile, the enchanted household objects conspire to cause the odd couple to fall for each other and break the spell that allows both them and their master to return to human form again.

There are efforts by screenwriters by Stephen Chbosky (*The Perks of Being a Wallflower*) and Evan Spiliotopoulos (*The Huntsman: Winter's War*) to provide emotional affiliation between Belle and her Beast involving their mutual absent mothers that don't add much substance. And, in an ineffectual attempt to embolden her feminist cred, Belle invents a primitive version of a washing machine. Such additions don't hold a candelabra to tried and true sequences as when the Beast, in a wooing mood, reveals his vast library of books to Belle. One can only describe the reaction on Watson's face as she takes in this leather-bound orgy of reading material as a biblio-gasm.

That is not to say there isn't much to begrudge, especially with director Bill Condon's dedication to injecting the lushness and scope of tune-filled spectacles of yore into the world of IMAX 3-D. His reputation, which includes penning the rephrased screenplay for *Chicago* and calling the shots behind the camera for *Dreamgirls* and the final two FX-propelled *Twilight* films, shows he knows his way around both musicals and special effects. Watson might be at her best right out of the gate while performing the song *Belle*, which begins with her whinging her provincial existence in a small town and ends with her singing on high amid lush green hilltops dotted with yellow wild flowers while channeling Maria in *The Sound of Music*. That the camera lingers upon the freckles on her pert nose is an added aesthetic bonus.

Alas, once she is ensconced in the gigantic gothic castle, Watson is more reactive than pro-active as her slightness causes her to be swallowed up by the ornate scenery and upstaged by the chatty servants in the guise of furniture and knickknacks. I was a little nervous about how the voice cast including Ewan McGregor as the urbane French-accented candle man Lumiere and Ian McKellen as the chubby nervous mantel clock Cogsworth would fare. But they all do a bang-up job with the stand-out number *Be Our Guest*, the so-called "culinary cabaret" where plates, platters—casseroles and wares turn into performers in a Busby Berkeley-style spectacular. Condon wisely takes the choreography to the next level with nods to everything from *West Side Story* and *Les Miserables*. In conjunction with this, Gad and Evans—both musical theater veterans—pull off the humorous pub number *Gaston* with playful aplomb.

Less successful are the action sequences where the Beast and Gaston battle it out *The*

Hunchback of Notre-Dame[8]-style among rooftop turrets, crumbling crutches and gargoyles. But most dissatisfactory are the not-so-memorable innovative songs that pop up in the second half whose melodies are once again written by composer Alan Menken but with lyrics by Tim Rice (*The Lion King*). They just cannot compete with the old favorites that never fail to tickle the ears with their irresistible wordplay supplied by the late great Howard Ashman. But with its racially diverse cast (at one point, I wished that Broadway dynamo Audra MacDonald as the niche Madame Garderobe and the sprightly Stanley Tucci as her harpsichord hubby Maestro Cadenza could have done their own duet) and wink at same-sex flirtation, this "Beauty" presents a far more inclusive view of the world. One that is awash with a sense of hope and connection that we desperately need right now. If you desire a wishful entertaining escape from reality right about now, be my guest.

(Adapted from "Beauty and the Beast", http://www.rogerebert.com/reviews/beauty-and-the-beast-2017, written by Susan Wloszczyna)

Notes

① *Die Hard*

Die Hard is a 1988 American action film directed by John McTiernan and written by Steven E. de Souza and Jeb Stuart. It follows off-duty New York City Police Department officer John McClane (Bruce Willis) as he takes on a group of highly organized criminals led by Hans Gruber (Alan Rickman), who performs a heist in a Los Angeles skyscraper under the guise of a terrorist attack using hostages, including McClane's wife Holly (Bonnie Bedelia), to keep the police at bay.

② *Terminator 2*

Terminator 2 (also referred to as *Terminator 2: Judgment Day*) is a 1991 American science-fiction action film co-written, produced and directed by James Cameron. The film stars Arnold Schwarzenegger, Linda Hamilton, Robert Patrick and Edward Furlong. It is the sequel to the 1984 film *The Terminator*, and the second installment in the *Terminator* franchise. *Terminator 2* follows Sarah Connor (Hamilton) and her ten-year-old son John (Furlong) as they are pursued by a new, more advanced Terminator, the liquid metal, shapeshifting T-1000 (Patrick), sent back in time to kill John Connor and prevent him from becoming the leader of the human resistance. A second, less advanced Terminator (Schwarzenegger) is also sent back in time to protect John.

③ *Alice in Wonderland*

Alice in Wonderland is a 2010 American fantasy adventure film directed by Tim Burton from a screenplay written by Linda Woolverton. Based on Lewis Carroll's fantasy novels, *Alice's Adventures in Wonderland* and *Through the Looking-Glass*, and inspired by Walt Disney's 1951 animated film of the same name, the film tells the story of a nineteen-year-old Alice Kingsleigh, who is told that she can restore the White Queen to her throne, with the help of the Mad Hatter. She is the only one who can slay the Jabberwocky a dragon-like creature that is controlled by the Red Queen and terrorizes Underland's inhabitants.

The film was produced by Walt Disney Pictures and shot in the United Kingdom and the United States. It received mixed reviews upon release; although praised for its visual style

and special effects, the film was criticized for its lack of narrative coherence and overuse of computer-generated imagery. At the 83rd Academy Awards, *Alice in Wonderland* won Best Art Direction and Best Costume Design, and was also nominated for Best Visual Effects. The film generated over $1 billion in ticket sales and became the fifth-highest-grossing film of all time during its theatrical run.

④ *The Jungle Book*

The Jungle Book is a 2016 American adventure film, directed and co-produced by Jon Favreau, produced by Walt Disney Pictures, and written by Justin Marks. Based on Rudyard Kipling's eponymous collective works and inspired by Walt Disney's 1967 animated film of the same name, *The Jungle Book* is a live-action film that tells the story of Mowgli, an orphaned human boy who, guided by his animal guardians, sets out on a journey of self-discovery while evading the threatening Shere Khan.

⑤ CGI

The abbreviation CGI refers to computer-generated imagery, a technology widely used nowadays in animated production.

⑥ *Frozen*

Frozen is a 2013 American 3D computer-animated musical fantasy film produced by Walt Disney Animation Studios and released by Walt Disney Pictures. It is the 53rd Disney animated feature film. Inspired by Hans Christian Andersen's fairy tale "The Snow Queen", the film tells the story of a fearless princess who sets off on a journey alongside a rugged iceman, his loyal pet reindeer, and a naive snowman to find her estranged sister, whose icy powers have inadvertently trapped the kingdom in eternal winter.

⑦ *Toy Story 3*

Toy Story 3 is a 2010 American 3D computer-animated comedy-drama film, the third installment in the *Toy Story* series, and the sequel to *Toy Story 2* (1999). It was produced by Pixar Animation Studios and released by Walt Disney Pictures. It was directed by Lee Unkrich, the editor of *Toy Story* (1995) and co-director of *Toy Story 2*, written by Michael Arndt, while Unkrich wrote the story along with John Lasseter and Andrew Stanton, respectively director and co-writer of the first two films. The film was released in theaters on June 18, 2010, and played worldwide from June through October in the Disney Digital 3-D, Real D, and IMAX 3D formats. *Toy Story 3* was the first film to be released theatrically with Dolby Surround 7.1 sound. The plot focuses on the toys Woody, Buzz Lightyear, and their friends dealing with an uncertain future as their owner, Andy, prepares to leave for college.

⑧ *The Hunchback of Notre-Dame*

The Hunchback of Notre-Dame (French: *Notre-Dame de Paris*) is a French Romantic/Gothic novel by Victor Hugo, published in 1831. The original French title refers to Notre Dame Cathedral, on which the story is centered. English translator Frederic Shoberl named the novel *The Hunchback of Notre Dame* in 1833 because at the time, Gothic novels were more popular than Romance novels in England. The story is set in Paris, France in the late Middle Ages, during the reign of Louis XI.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) Do you like movies? What kind of movies do you like best? Why?
2) A great many movie makers are fond of animating fairy stories and giving them a kind of magic which live action movies could not have. What are the differences between animated movies and live action ones?
3) It's a common trend to combine live action movie footage with "3D" animation. Given the amount of computer-generated imagery in live action movies, what are the advantages of combining "3D" technology with movies?
4) Some animated movies with the strong Chinese theme, like *Kung Fu Panda*, have achieved great popularity worldwide. How could Chinese filmmakers present more brilliant Chinese flavor animated movies to the world? Please give some suggestions.
5) There have been many comments and feedback to the movie *Beauty and the Beast*, which has delighted audiences worldwide. What do you know about this movie?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (ture) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ *Beauty and the Beast* is better than *The Little Mermaid*.
2) ________ Howard Ashman composed both the songs in this film and in *The Little Mermaid*.
3) ________ All the participants on the creation of this film are confident that the family audience deserves great entertainment.
4) ________ The film presents a homosexual topic and receives scathing attacks from the mass media.
5) ________ The screenwriter will be changed from the next series.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

lucrative	quaint	default	melody	chubby	bloat	guise
feminist	trump	flirt	fault	feminine	obese	acquaint

1) He is a responsible and kind boss who never ________ the employee's pay.
2) The thieves sneak into the school in the ________ of students because they do not want to be exposed.
3) The opening of *Beauty and the Beast* is the best ________ that I have ever listened to since my

college.

4) As advocates of the sharing economy like to put it, access ________ ownership.
5) I live in a ________ villa, which is very luxurious and attractive.
6) At first I thought he was rather ordinary-looking, a little ________, not my type.
7) She is a ________ who wants to liberate women from male supremacy.
8) The birds which ________ their tails are the most beautiful ones.
9) Piracy is a ________, albeit dangerous business.
10) The problem, then, is not the government itself, but inefficiency and ________.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) The movie's story, somewhat altered from the original fable, involves a beauty named Belle, who lives in the worlds of her favorite library books and is repelled by the romantic advances of Gaston, the muscle-bound cretin in her little 18th century French village.
2) ... the Beast is actually a handsome young prince who was transformed into a hideous monster as a punishment for being atrocious.
3) The bottom line: This gloriously old-fashioned musical with gee-whiz trappings is a dazzling aesthetics to behold ... and is anything but a beastly re-interpretation of a fairy tale as old as time.
4) Such additions don't hold a candelabra to tried and true sequences as when the Beast, in a wooing mood, reveals his vast library of books to Belle.
5) ... Watson is more reactive than pro-active as her slightness causes her to be swallowed up by the ornate scenery and upstaged by the chatty servants in the guise of furniture and knickknacks.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

reputable	fantasy	lucrative	critical	innovative	tut
plausible	transform	safeguard	portray	Briton	

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) ding	**a.** a large mounted weapon that fires heavy projectiles
2) bannister	**b.** a self-service laundry
3) cannon	**c.** a machine in which materials are ground and blended or crushed
4) mortar	**d.** a dog of any of various typically small, active breeds originally developed for driving game from burrows
5) impeccable	**e.** having no flaws; perfect
6) launderette	**f.** to speak persistently and repetitiously
7) terrier	**g.** a handrail, especially on a staircase
8) bairn	**h.** one of the parts or spaces into which an area is subdivided

9) biro i. the darker stage of twilight, especially in the evening
10) compartment j. the curved edge at the junction of two intersecting vaults
11) gobble k. a newspaper
12) groin l. a smooth, often silk fabric that is woven with a glossy face and a dull back
13) gazette m. a kind of ballpoint
14) satin n. to devour in greedy gulps
15) dusk o. a child

2. *Directions: Complete the summary of* Cupid and Psyche *using the list of words and change the form if necessary.*

discontent	utmost	meditate	boggle	disallow	lieu	decree
sweetheart	absurd	glitter	lament	prevail	enact	ambivalent
deduce	cashier	affluent	miraculous	aloud	vile	

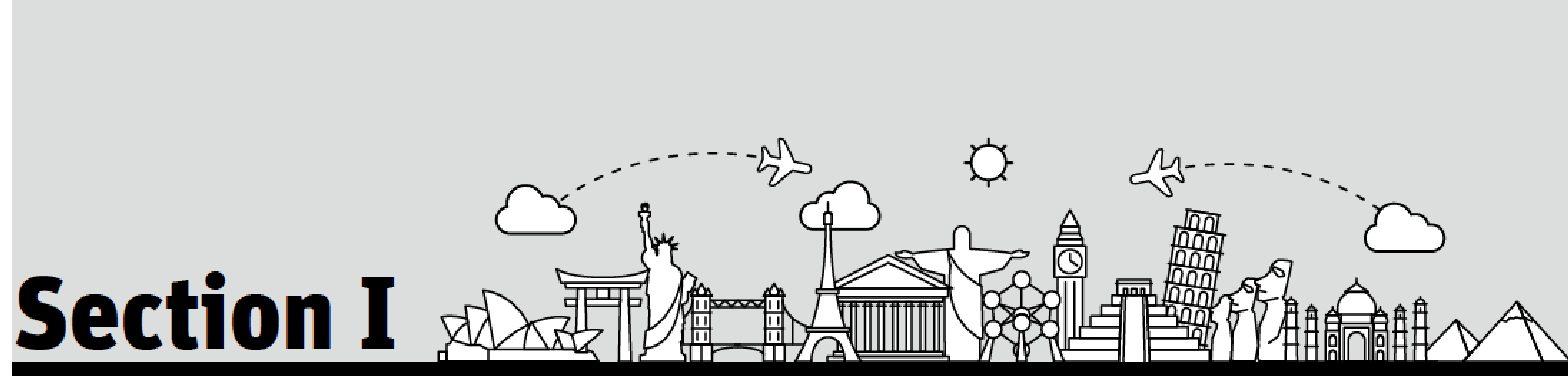
A ________ beautiful girl, Psyche, is born after two older sisters. People throughout the land worship her beauty so deeply that they forget about the goddess Venus. Venus becomes angry that her temples are falling to ruin, so she ________ to ruin Psyche. She ________ her son, Cupid, to pierce the girl with an arrow and make her fall in love with the most ________, hideous man alive. But when Cupid sees Psyche in her radiant ________, he shoots himself with the arrow instead.

Meanwhile, Psyche and her family become worried that she will never find a husband, for although men ________ on her beauty, they do not always seem ________ to marry someone else. Psyche's father prays to Apollo for help, and Apollo instructs her to go to the top of a hill, where she will marry not a man but a serpent. Psyche bravely follows the instructions and falls asleep on the hill. When she wakes up, she discovers a stunning ________. Going inside, she relaxes and enjoys fine food and luxurious treatment. At night, in the dark, she meets and falls in love with her husband.

She lives happily with him, never seeing him, until one day he tells her that her sisters have been ________ for her. She begs to see them, but her husband ________ her to do so. Psyche insists that they visit, and when they do, they become extremely jealous of Psyche's beautiful mansion and lush quarters. They ________ that Psyche has never seen her husband, and they ________ her that she must sneak a look. ________ and ________, Psyche turns on a lamp one night as her husband lies next to her.

When she sees the beautiful Cupid asleep on her bed, she weeps for her lack of faith. Cupid awakens and deserts her because love cannot live where there is no trust. Cupid returns to his mother, Venus, who again decides to ________ revenge on the beautiful girl.


Unit 2
Environment



Section I

Focus on Building Word Power

Developing a strong vocabulary has many benefits. Increasing the vocabulary increases the ability to think critically about new information. A large vocabulary is more specifically predictive and reflective of high levels of reading achievement. Enlarge your vocabulary while sharpening your comprehension skills and you'll be amazed at your increased ability to understand and remember what you read.

What do you do when you come across an unfamiliar word? Do you just skip over it? Or do you pick up your dictionary and look for the definition? The first method is of course not recommended. Yet turning to the dictionary every time also has drawbacks. Looking up too many words can hurt your concentration. If you look up too many words, you can lose track of where you were on the page.

There are two important ways readers can try to figure out the meaning of unfamiliar words without having to immediately consult a dictionary.

Pay Attention to Context Clues

Authors use context clues in the writing to help the readers define an unfamiliar word, that is, to search the context, or setting, of the word to see if it contains a clue or clues to word meaning. Frequently, the sentence or passage in which the word appears can help you determine an approximate definition that allows you to keep reading without interruption. There are different types of context clues as follows:

1) Example Clues

As you already know, the context of an unfamiliar word sometimes provides you with an example of the behavior or thinking associated with the word. Here's one sentence in which an example can lead you to the definition of the word "ambivalent":

His feelings for his cousin were ambivalent: Sometimes he delighted in her company; at other times, he couldn't stand the sight of her.

What's an example of ambivalent feelings? They are in conflict with one another. Because this is an example of what it feels like to be ambivalent, we can infer the following approximate definition: To be ambivalent is to experience conflicting emotions.

2) Contrast Clues

Context clues can also tell you what a word does not mean. Fortunately, knowing what a word doesn't mean can often lead you to a good approximate definition. Here's an example of a passage that provides a contrast clue:

As a child, she liked to be alone and was fearful of people; but as an adult, she was remarkably gregarious.

This sentence suggests that someone who is gregarious does not exactly flee the company of others. In fact, the sentence implies just the opposite: People who are gregarious like to be in the company of others. Thus, "liking the company of others" would be a good approximate definition.

In addition to knowing what a contrast clue is, you should also know that words such as but, yet, nevertheless, and however frequently introduce reversal or contrast clues. These words are all transitions—verbal bridges that help readers connect ideas. The transitions mentioned here tell readers to be on the lookout for a shift or change in thought.

3) Restatement Clues

To avoid tedious word repetition, authors often use a word and then follow it with a synonym, a word or phrase similar in meaning:

The journalist had the audacity to criticize the president to his face. Oddly enough, her boldness seemed to amuse rather than irritate him.

In this case, the author doesn't want to overuse the word "audacity", so she follows it with a synonym, "boldness" restating the word in language readers can understand and provides them with a definition.

4) General Knowledge Clues

Example, contrast, and restatement context clues are important. However, some context clues are not so obvious. Often your knowledge of the situation or events described will be your only real clue to word meaning. The following passage illustrates this point:

For months he had dreamed of being able to redeem his medals. He had been unable to think of anything else. Now, with the vision of the medals shimmering before him, he hurried to the pawnshop.

None of the context clues previously discussed appears in the passage. However, your general knowledge should tell you that the word "redeem", in this context at least, means "reclaim" or "recover". Most people go to a pawnshop to buy or to sell, and the man described as hurrying to the pawnshop probably wouldn't be in such a rush to sell something he had dreamed of for months. He is going to buy back what he has already sold.

Know and Understand Word Parts

Knowing word parts allows readers to make an educated guess regarding the meaning of the word. This strategy is known as the word-part analysis. There are three primary word parts: roots, prefixes, and suffixes.

Roots give words their fixed meaning. Prefixes and suffixes can then be attached to the roots to form new words. For example, the following words are all based on the root *spec*, which means "look" or "see": respect, inspection, spectacles, speculation.

Prefixes are word parts that appear at the beginning of words and modify the root meaning, as in "include" and "exclude" or "invoke" and "revoke".

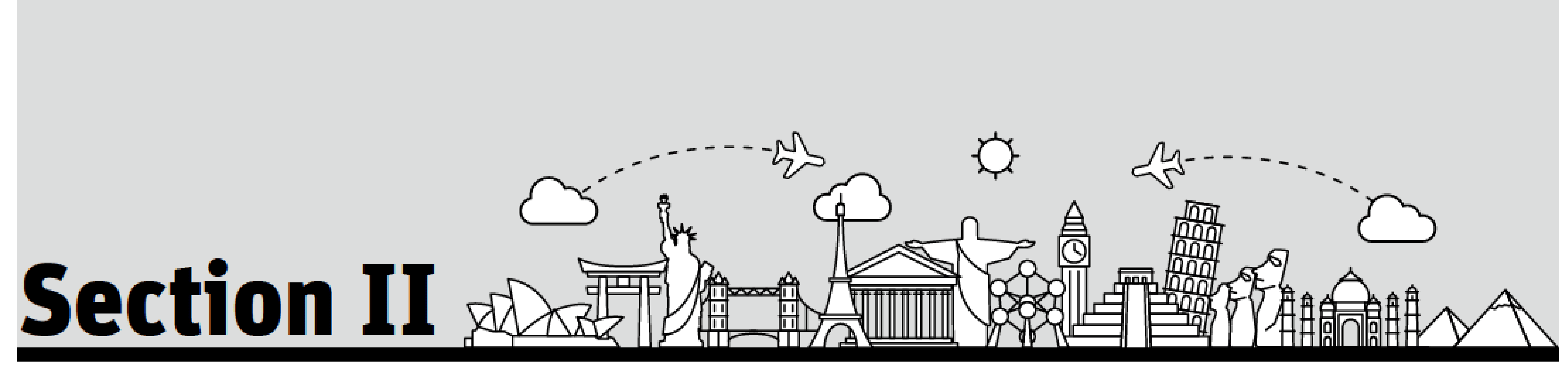
Suffixes are word parts that appear at the end of many words. Although suffixes do occasionally affect word meaning, they are more likely to reveal what part of speech a word is, as in "quickness" and "quickly". Words ending in *ness* are usually nouns. Those ending in *ly* are usually adverbs.

Combine Forces: Use Context Clues and Word Parts

Although recognizing word parts and using context clues are, by themselves, effective methods of determining meaning, they are even more powerful when combined. Take for example, the following sentences: "I can't imagine a more credulous person. He actually believed I saw a flying saucer on the way home." To a degree, knowing that the root *cred* means "belief" and the suffix *ous* means "full of" are helpful clues to meaning. We can start off, then, by saying that to be credulous is to be "full of belief". Yet what exactly does that mean? You can imagine a bottle full of juice or wine, but how can a person be "full of belief"?

This is where the context comes in. Look at the example clue the author offers: "He actually believed I saw a flying saucer on the way home." Apparently, a credulous person is likely to believe a story that most people might laugh at or question. After a closer look at the context, we can come up with a more precise definition of "credulous": gullible or easily fooled.

A knowledge of word parts can also help you sharpen or improve an approximate definition derived from the context. Suppose you are not sure how to define the word "ambiguous" in a sentence like this one: "The finest poems are usually the most ambiguous, suggesting that life's big questions defy easy answers." Relying solely on the context, you might decide that "ambiguous" means puzzling or difficult. Those definitions are certainly acceptable. But once you know that the prefix *ambi* means both, you could make your definition more precise by defining "ambiguous" as open to more than one interpretation, which would, in fact, be a better definition.



Text A: Modi and the Environment

Part 1 Power of Words

Core Words

① **consensus** [kən'sensəs] ***n.***

A consensus is general agreement among a group of people.

synonym	accordance; unity; agreement; accord; harmony; compromise; consent; keeping
antonym	disagreement; disharmony
word family	consent; consensual
related phrase	consensus on/about; reach a consensus; broad/generous consensus

Example 1 The consensus among the world's scientists is that the world is likely to warm up over the next few decades.

Example 2 There is a consensus among teachers that children should have a broad understanding of the world.

② **moreover** [mɔːr'əʊvə] ***adv.***

You use moreover to introduce a piece of information that adds to or supports the previous statement.

synonym	besides; again; also; then; additionally; furthermore; what is more; in addition

Example 1 The rent is reasonable and, moreover, the location is perfect.

Example 2 She saw that there was indeed a man immediately behind her. Moreover, he was observing her strangely.

③ **mull over**

If you mull something over, you think about it for a long time before deciding what to do.

Example 1 McLaren had been mulling over an idea to make a film.

Example 2 They need time to mull it over, compare products and prices, and decide if they really need it.

④ **veiled** [veɪld] ***adj.***

A veiled comment is expressed in a disguised form rather than directly and openly.

synonym indirect; oblique; obscure; covert; roundabout; hidden; latent; implicit; unclear
antonym overt; uncovered
word family veil; veiling
related phrase veiled words

Example 1 He made only a veiled reference to international concerns over human rights issues.

Example 2 His speech is being seen as a veiled attack on asylum-seekers.

⑤ **pertinent** ['pɜːtɪnənt] ***adj.***
relevant to a particular subject
synonym relevant; relational; correlative; related
antonym irrelevant
word family pertinently; pertinence; pertain
related phrase pertinent data/question

Example 1 He asked me a lot of very pertinent questions.

Example 2 The last point is particularly pertinent to today's discussion.

⑥ **domain** [dəʊ'meɪn] ***n.***
A domain is a particular field of thought, activity, or interest, especially one over which someone has control, influence, or rights.
synonym province; territory; world; industry; kingdom; universe; sphere
related phrase in the public domain; time domain

Example 1 Looking after the house was viewed as a woman's domain.

Example 2 Those people are the great experimenters in the domain of art.

⑦ **ensue** [ɪn'suː] ***vi.*** **(ensued/ensued/ensuing)**
If something ensues, it happens immediately after another event, usually as a result of it.
synonym follow on; succeed
antonym precede
related phrase ensue from

Example 1 The government had to deal with the problems that ensue from food and medical shortages.

Example 2 If the Europeans did not reduce subsidies, a trade war would ensue.

⑧ **repeal** [rɪ'piːl] ***vt.*** **(repealed/repealed/repealing)**
If the government repeals a law, it officially ends it, so that it is no longer valid.
synonym abolish; cancel; revoke; rescind; annul; retract
antonym enact
word family repealer
related phrase repeal legislation/law

Example 1 The government has just repealed the law segregating public facilities.

Example 2 He believes that death penalty will be repealed sooner or later.

⑨ **deploy** [dɪ'plɔɪ] ***vt.*** **(deployed/deployed/deploying)**

To deploy troops or military resources means to organize or position them so that they are ready to be used.

synonym adopt; arrange; array; employ; implement
word family deployer; deployment
related phrase deploy forces/troops/weapons

Example 1 The President said he had no intention of deploying ground troops.

Example 2 NATO made a decision to deploy cruise missiles.

⑩ **empower** [ɪm'paʊə] ***vt.*** **(empowered/empowered/empowering)**

If someone is empowered to do something, they have the authority or power to do it.

synonym grant; authorize; allow; sanction; permit
antonym forbid; discourage
word family empowerment; empowered
related phrase empower sb. to do sth.

Example 1 The President is empowered to appoint judges to the Supreme Court.

Example 2 The army is now empowered to operate on a shoot-to-kill basis.

⑪ **oversee** [ˌəuvə'siː] ***vt.*** **(oversaw/overseen/overseeing)**

If someone in authority oversees a job or an activity, they make sure that it is done properly.

synonym supervise; manage; superintend; direct
related phrase oversee sb./sth.

Example 1 Use a surveyor or architect to oversee and inspect the different stages of the work.

Example 2 A team leader was appointed to oversee the project.

⑫ **appraisal** [ə'preɪzl] ***n.***

Appraisal is the official or formal assessment of the strengths and weaknesses of someone or something; Appraisal often involves observation or some kind of testing.

synonym assessment; evaluation; judgment; review
word family appraise; appraiser
related phrase graduation/performance/real estate/assets appraisal

Example 1 One of the most important tools for organizational improvement is the performance appraisal.

Example 2 The higher education appraisal is the important means of promoting higher education development.

⑬ **compliance** [kəm'plaɪəns] ***n.***

Compliance with something, for example a law, treaty, or agreement, means doing what you are required or expected to do.

synonym obedience; acquiescence; agreement; submission; amenability
word family noncompliance
related phrase in compliance with sth.

Example 1 Inspectors were sent to visit nuclear sites and verify compliance with the treaty.

Example 2 The staff involved should be monitored to ensure compliance with the policy.

⑭ **broach** [brəutʃ] ***vt.*** **(broached/broached/broaching)**

When you broach a subject, especially a sensitive one, you mention it in order to start a discussion on it.

synonym propose; present; submit; mention; bring up
related phrase broach the subject/question/matter

Example 1 Eventually I broached the subject of her early life.

Example 2 Broaching the topic at the wrong time could cost you the job—or thousands of dollars.

⑮ **forfeit** ['fɔ:fət] ***n.***

A forfeit is something that you have to give up because you have done something wrong.

synonym penalty; forfeiture; loss; penalization; punishment

Example 1 That is the forfeit he must pay.

Example 2 All goods may be forfeit to the State in time of war.

⑯ **retribution** [ˌretrɪ'bju:ʃn] ***n.***

Retribution is punishment for a crime, especially punishment that is carried out by someone other than the official authorities.

synonym punishment; payback; reprisal; revenge
word family retributive; retributory; retributivism

Example 1 He didn't want any further involvement for fear of retribution.

Example 2 Victims are demanding retribution for the terrorist attacks.

⑰ **offspring** ['ɒfˌsprɪŋ] ***n.***

You can refer to a person's children or to an animal's young as their offspring.

synonym progeny; children; young; brood

Example 1 Eleanor was now less anxious about her offspring than she had once been.

Example 2 All the land that you see I will give to you and your offspring forever.

⑱ **breakthrough** ['breɪkθru:] ***n.***

A breakthrough is an important development or achievement.

synonym	progress; advance; innovation
related phrase	breakthrough point/technology; make a breakthrough; medical/scientific/ major/significant breakthrough

Example 1 The company looks poised to make a significant breakthrough in China.

Example 2 Scientists have made a major breakthrough in the treatment of cancer.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

abate	contentious	crave	forestry	goodwill
hefty	infrastructure	judicial	jurisdiction	mandatory
obnoxious	opportune	precinct	protocol	reef
revamp	rev	scrupulous	sizeable	snag
subsist	viewpoint			

Part 2 Text

Modi and the Environment

As India's NDA[1] government led by Narendra Modi[2] settles into the corridors of power in New Delhi, its policy directions are becoming clear. The initial trends are not very encouraging for environmentalists. Affirmative decision-making is normal for new regimes and not unique to the NDA. Many thousands of hectares of forestland were cleared for development projects—mainly mining—in the last three decades.

But the process of obtaining clearances for a range of projects, from mining to roads, has been fast-tracked in the last few months. Over a short four months, more than 92 projects have been approved, requiring the clearing of 1,600 hectares of forests. Pursuant to an office memorandum issued by the Ministry of Environment and Forests, demanding easing of conditions for certain projects such as coal mining, clearances for projects located near sanctuaries and national parks have also been fast-tracked. An extraordinary procedure of making states responsible for clearances has also been accomplished, which is a new thrust in India's center-state relations. It is a public secret that the state pollution control boards are under-staffed, under-equipped and corrupt.

Safeguards that subsisted in the clearance procedure, such as required communal hearings[3], have also been largely bypassed or diluted. Wherever possible, subjecting projects to public hearings and consensus of the gram sabhas (a body of all eligible voters in a village) has been avoided. The NDA and the media apparently view the mandated requirements of environmental impact assessments and public hearings as impediments to development. Existing coal-mining projects can now apply for a one-time capacity expansion of up to 25 percent without any public hearing. Moreover, small coal mines, producing less than 8 million tons annually, have been allowed to double their capacity without any hearing.

High-Level Committee Headed by T.S.R. Subramaniam

Especially worrisome, the government has constituted a four-member committee, under the erstwhile cabinet secretary T.S.R. Subramaniam, to review laws relating to the protection of the environment and forests, with the ostensible aim of suggesting amendments that will make these laws more effective. The committee will review the implementation of five major green laws: Environment (Protection) Act 1986, Forest (Conservation) Act 1980, Wildlife (Protection) Act 1972, Water (Prevention and Control of Pollution) Act 1974, and Air (Prevention and Control of Pollution) Act 1981. The committee is to recommend amendments to bring them into conformity with "current requirements", according to the memorandum of the Ministry of Environment and Forests. Most obnoxiously, this panel will mull over various court orders and judicial pronouncements relating to these acts. This seems a veiled threat to negate the Supreme Court's handful of environmentally protective judgments.

This raises the pertinent question of what the Ministry's current requirements are. Activists have claimed that the clearances in question are an attempt to abate the laws related to environmental protection for purposes of economic development. Strict procedural norms, such as those relating to public hearings, may inconvenience industrialists. The leadership in the NDA government has spoken repeatedly about how projects were being held up for "frivolous" reasons and that they were proving to be "snags" to development. It is believed that two laws of the previous government, the UPA[4], namely the National Green Tribunal Act, 2010, and the Forest Rights Act, 2006, have delayed, among others, the 52,000 crore (roughly $90 billion) POSCO[5] project in the high unemployment state of Odisha. While the government has denied wishing to dilute the laws, it is clear that the government considers the environment laws, as currently implemented, as constituting a roadblock, and wishes to rev the process of development at the cost of environmental protection and sustainable growth.

Not only is the policy of the government unlikely to benefit the environment; it is also unlikely to benefit its own objectives. Most projects are not rejected on environmental grounds. The developers continue to pollute. The NDA is not doing much more than furthering the policy of the UPA in a more transparent manner, since less than 3 percent of the projects were rejected under the UPA on environmental grounds. While reform of the legislation may definitely be required, the need of the hour is not fast-tracked clearances, but rather the consolidation of clearances, called single-window clearances, and greater transparency, including publishing all information related to environmental clearances in the public domain. Not only does this help the environment and communities, but it is also likely to uplift the speed and efficiency with which environmental clearances ensue.

National Green Tribunal

One important thrust of Modi's actions seems to be to undermine the National Green Tribunal (NGT). Environmental lawyer Ritwick Dutta told *The Hindu* that many dilutions have been in the offing for a long time, but in the case of the NGT, it would be very difficult to recast it as an administrative or quasi-judicial body[6], as suggested by reports. When asked, new Minister of Environment Javadekar ruled out any such change in the NGT. Dutta said that the NGT was instituted by an act of Parliament and could not be wished away. "While green protocols have been facing threats throughout, what is different now is the lack of concern for environment

protection ... [There is] emphasis on transparency in the form of clearances, [but] what about compliances? You cannot be selectively transparent."

The Environment Ministry wants the NGT to make recommendations to the government instead of issuing directions like a judicial body. In its viewpoint, only the impressionable Supreme Court of India should have the right to repeal clearances. A year ago, the ministry asked the tribunal to limit its jurisdiction, but the proposal was rejected. The move to revamp legislation was initiated by Javadekar himself. A cabinet note—prepared by his ministry—to water down the powers and jurisdiction of the tribunal would be circulated for inter-ministerial discussion soon, sources said.

Since its onset in 2010, the NGT, which is deployed by a former Supreme Court judge, has stayed approvals for several projects. In the POSCO case, the NGT asked the Environment Ministry to review clearances after some local villages refused to consent to the project under the pro-tribal Forest Rights Act, 2006. Officials say the requirement of mandatory consent from the gram sabha for initiating any project is the biggest hurdle in heightening infrastructure development in mineral reef and poor precincts.

Consolidated Green Clearances

An alternative to the current government's actions would be to consolidate all green clearances, be they related to the environment, forestry, wildlife or coastal zone, so that decisions can be taken understanding the overall impact of each project. Hefty clearances required separately lead to delays and poor decision-making. The Supreme Court has asked the executive to establish and empower a national regulator for environmental clearances. It is either this officer, or a comparable red tape[7] cutter, who should oversee all clearances.

As of now, 99 percent of projects manage to get environment-related clearances; 94 percent get forest clearances. Industries are able to bag these clearances due to a multiplicity of regulations and regulators that help unscrupulous elements in industry. In the current scenario, the government has no system in place for independent appraisal of project clearances. The authorities lack the capacity to monitor compliance with clearance conditions. And lack of access to reliable and relevant information related to project clearances makes them contentious.

These flaws must be broached and this can be best done if an independent body is set up to oversee clearances. The body should be given enough powers and resources to conduct an opportune appraisal of relevant conditions as well as to impose sizeable forfeit and retributions. It must be transparent and accountable and encourage public participation in green clearances. All information related to green clearances should be put in the public domain. The process of public hearings must be fortified and made more transparent. Governance is not only about faster clearances and industrial development alone, but also about compliances, sustainable development and equity for future offsprings. Modi must not forget the goodwill of millions of people who voted for him craving for an equitable share in the India's economic breakthrough.

(Adapted from "Modi and the Environment", http://www.truth-out.org/opinion/item/26547-modi-and-the-environment, written by Armin Rosencranz)

Notes

① NDA

The National Democratic Alliance (NDA) is a coalition of political parties in India. At the time of its formation in 1998, it was led by the Bharatiya Janata Party (BJP) and had thirteen constituent parties. Its honorary chairman is former Prime Minister Atal Bihari Vajpayee. Also representing the alliance are L. K. Advani, former Deputy Prime Minister, who is the acting chairman of the Alliance; Narendra Modi, Prime Minister and Leader of the House in Lok Sabha; and Arun Jaitley, Leader of the House in Rajya Sabha. The coalition was in power from 1998 to 2004. The alliance returned to power in the 2014 general election with a combined vote share of 38.5%. Its leader, Narendra Modi, was sworn in as Prime Minister of India on May 26, 2014.

② Narendra Modi

Narendra Damodardas Modi, born on September 17, 1950, is an Indian politician who is currently the Prime Minister of India, in office since May 2014. He was the Chief Minister of Gujarat from 2001 to 2014, and is the Member of Parliament for Varanasi. Modi, a member of the Bharatiya Janata Party (BJP), is a Hindu nationalist and member of the right-wing Rashtriya Swayamsevak Sangh (RSS).

③ hearings

In the law, a hearing is a proceeding before a court or other decision-making body or officer, such as a government agency or a Parliamentary committee.

④ UPA

The United Progressive Alliance (UPA) is a coalition of centre-left political parties in India formed after the 2004 general election. One of the members of UPA is Indian National Congress, whose National President Sonia Gandhi is also the chairperson of the UPA.

⑤ POSCO

POSCO India Private Limited (commonly POSCO India or Posco-India) is an Indian subsidiary of Korean conglomerate POSCO.

Its parent company POSCO signed a memorandum of understanding in June 2005 with the state government of Odisha to construct a $12 billion steel plant. Various regulatory delays and controversies prevented the company from starting construction. The memorandum expired in June 2011, and as of April 2012, it has not been renewed. Apart from Odisha, POSCO India has project sites in the Karnataka and Maharashtra states.

⑥ quasi-judicial body

A quasi-judicial body is an entity such as an arbitrator or tribunal board, generally of a public administrative agency, which has powers and procedures resembling those of a court of law or judge, and which is obliged to objectively determine facts and draw conclusions from them so as to provide the basis of an official action. Such actions are able to remedy a situation or impose legal penalties, and may affect the legal rights, duties or privileges of specific parties.

⑦ **red tape**

Red tape is an idiom that refers to excessive regulation or rigid conformity to formal rules that is considered redundant or bureaucratic and hinders or prevents action or decision-making. It is usually applied to governments, corporations, and other large organizations.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What kinds of environmental problems are human beings faced with? In your opinion, what is the root of the environmental problems? What can we do to protect our Mother Earth?
2) Some people believe that economic development should take priority over environmental protection because the development of economy provides jobs and increases people's living standard while others maintain that this is only short-sighted thinking and that mankind has a long-term responsibility to protect the environment. What is your opinion about this issue?
3) The green gross domestic product (green GDP) is an index of economic growth with the environmental consequences of that growth factored into a country's conventional GDP. Green GDP monetizes the loss of biodiversity, and accounts for costs caused by the climate change. How do you evaluate on the term "green GDP"?
4) As India looks to ratchet up its manufacturing exports and China expands its services industries, Asia's two giants are going to be "battling" more for the global market. What do you think about the competition between the two developing countries?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (True) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ Over a short time, most forest projects have been made approvals.
2) ________ The government has implemented five major laws.
3) ________ More than 97% of the projects were approved on environmental grounds.
4) ________ Further delays and worse decision will be caused by government's actions.
5) ________ It is true that only the Supreme Court of India should have the right to reject clearances.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

abate	deploy	ensue	crave	giveaway	swop	crumple	headlight
fob	fledge	foil	gasket	jab	Jacuzzi	polystyrene	

1) They argue that access should be made available because of the global benefits that would ________.
2) So far, however, we have said nothing about how to ________ it.
3) She ________ at the elevator buttons.
4) You just ________ this person.
5) When I bought perfume yesterday, I got a lipstick as a ________.
6) The traditional order began to ________ soon after.
7) The ________ of the car glared at me.
8) In this phase, the shouts and histrionics will ________ somewhat.
9) However, it must be acknowledged that she had faults to ________ her gifts.
10) Then tighten the nut on the drain body, sealing the ________ and washer against the drain flange.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Existing coal-mining projects can now apply for a one-time capacity expansion of up to 25 percent without any public hearing.
2) Activists have claimed that the clearances in question are an attempt to abate the laws related to environmental protection for purposes of economic development.
3) Officials say the requirement of mandatory consent from the gram sabha for initiating any project is the biggest hurdle in heightening infrastructure development in mineral reef and poor precincts.
4) An alternative to the current government's actions would be to consolidate all green clearances, be they related to the environment, forestry, wildlife or coastal zone, so that decisions can be taken understanding the overall impact of each project.
5) Governance is not only about faster clearances and industrial development alone, but also about compliances, sustainable development and equity for future offsprings.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

tabloid	tournament	vodka	Ukraine	casino
fullback	pedigree	sportsman	sucker	bandit

V. Additional Vocabulary Fun

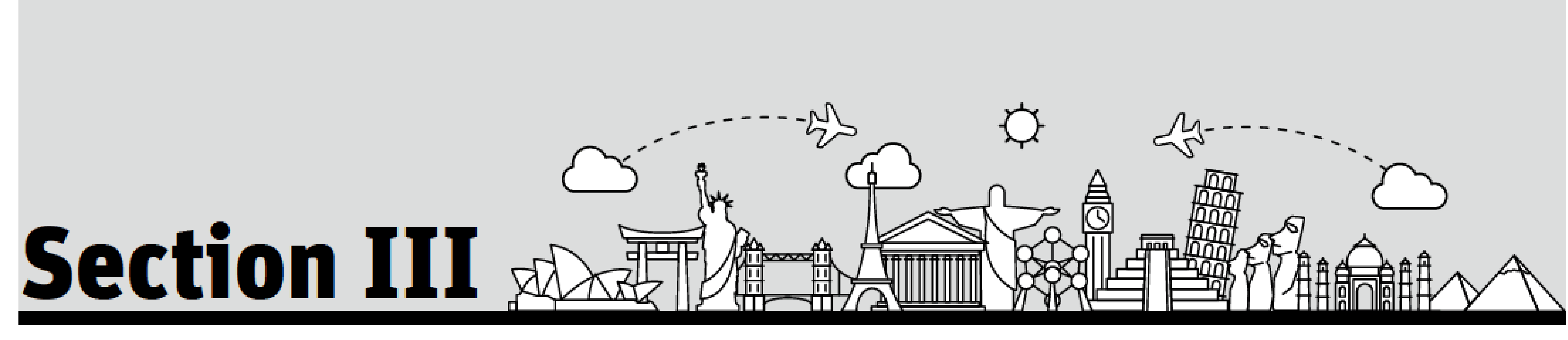
1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) wick — **a.** turning or able to turn around a fixed point
2) tong — **b.** a secret vote in which people select a candidate in an election, or express their opinion about something
3) stadium — **c.** a large sports field with rows of seats all around it
4) tar — **d.** to gather or seize with tongs

5) stamina e. the piece of thread in a candle, that burns when you light it
6) sacrament f. a plant with large leaves and long red stems and you can cook the stems with sugar to make the jam or pie
7) slit g. sleep or slumber
8) scab h. a Christian religious ceremony such as communion, baptism, or marriage
9) sawdust i. very small pieces of wood which are produced when you saw wood
10) shunt j. ring or cause to ring, especially with tedious repletion
11) kip k. a long narrow cut
12) ballot l. the physical or mental energy needed to do a tiring activity for a long time
13) ding m. a hard, dry covering that forms over the surface of a wound
14) rotary n. a thick black sticky substance that is used especially for making roads
15) rhubarb o. to move someone or something to another place, especially in a way that seems unfair

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. chorus	B. cockney	C. courier	D. cobweb
2)	( )	A. groin	B. rem	C. arsehole	D. kneecap
3)	( )	A. le	B. tut	C. sizzle	D. coo
4)	( )	A. thyroid	B. testicle	C. armpit	D. wank
5)	( )	A. fart	B. constipate	C. pee	D. slang



Text B: Why Vegetarianism Is the Best Way to Help the Environment

Part 1 Power of Words

Core Words

① **ethical** ['eθɪkl] ***adj.***

Ethical means relating to beliefs about right and wrong.

synonym	moral; principled; right; fair; decent
antonym	unethical
word family	ethically; ethic; ethics; ethicist
related phrase	ethical issues/questions/problems/value

Example 1 The president must have the highest ethical standards.

Example 2 The use of animals in scientific tests raises difficult ethical questions.

② **deem** [di:m] ***vt.*** **(deemed/deemed/deeming)**

If something is deemed to have a particular quality or to do a particular thing, it is considered to have that quality or do that thing.

synonym	believe; consider; estimate; hold; judge
related phrase	deem sth. + n./adj.; deem sth. to be sth.; deem that

Example 1 French and German were deemed essential.

Example 2 He says he would support the use of force if the UN deemed it necessary.

③ **dwindle** ['dwɪndl] ***vi.*** **(dwindled/dwindled/dwindling)**

If something dwindles, it becomes smaller, weaker, or less in number.

synonym	decrease; decline; diminish; fall off; drop
antonym	increase
related phrase	dwindle down; dwindle away; dwindle to

Example 1 The factory's workforce has dwindled from over 4,000 to a few hundred.

Example 2 The stream has dwindled to a trickle.

④ **notwithstanding** [ˌnɒtwɪθ'stændɪŋ] ***adv./prep.***

If something is true notwithstanding something else, it is true in spite of that other thing.

synonym	nevertheless; nonetheless; all the same; anyhow

Example 1 His relations with colleagues, differences of opinion notwithstanding, were unfailingly friendly.

Example 2 Notwithstanding, we should learn to readily forgive others.

⑤ **cutback** ['kʌtbæk] ***n.***

A cutback is a reduction that is made in something.

synonym	reduction; cut; decrease; decline; drop
related phrase	sharp/drastic/severe cutback; labor cutback; cutback in sth.

Example 1 The region has also been hit hard by cutbacks in defence spending, which has left thousands out of work.

Example 2 The shortage of teachers was blamed on government cutbacks.

⑥ **carbon footprint**

Your carbon footprint is a measure of the amount of carbon dioxide released into the atmosphere by your activities over a particular period.

Example 1 We all need to look for ways to reduce our carbon footprint.

Example 2 Usually a carbon footprint is calculated for the time period of a year.

⑦ **edible** ['edəbl] ***adj.***

If something is edible, it is safe to eat and not poisonous.

synonym	comestible; eatable; palatable; appetizing
antonym	inedible; poisonous
word family	edibility; edibleness; inedible
related phrase	edible oil/fungus

Example 1 These berries are edible, but those are poisonous.

Example 2 When edible fruits ripen, they change their colours or scent which appeal to humans, to "invite" us to take them.

⑧ **worsen**['wɜːsn] ***vi./vt.*** **(worsened/worsened/worsening)**

If a bad situation worsens or if something worsens it, it becomes more difficult, unpleasant, or unacceptable.

synonym	get worse; deteriorate; degenerate; go downhill; degrade
antonym	improve
word family	worse; worsening
related phrase	worsening environment

Example 1 The security forces had to intervene to prevent the situation worsening.

Example 2 A lot of teachers expect the situation to worsen over the next few years.

⑨ **trample** ['træmpl] ***vi./vt.*** **(trampled/trampled/trampling)**

If someone tramples something or tramples on it, they step heavily and carelessly on it and damage it.

synonym crush; flatten; walk on; stamp on; step on
word family tramp; tramper
related phrase trample on; trample down; trample (on/over) sb./sth.

Example 1 They don't want people trampling the grass, pitching tents or building fires.

Example 2 There was a small fence to stop people trampling on the flowers.

⑩ marine [mə'ri:n] *adj.*

Marine is used to describe things relating to the sea or to the animals and plants that live in the sea.

synonym maritime; nautical; oceangoing; naval; seafaring; seagoing
word family mariner; maritime; marina
related phrase marine environment/engineering/insurance/life/pollution/ecosystem

Example 1 We know exactly how long this wreck has been under water and how long marine life has been growing on it.

Example 2 Oil pollution has a serious effect on marine mammals.

⑪ incomprehensible [ɪnˌkɒmprɪ'hensəbl] *adj.*

Something that is incomprehensible is impossible to understand.

synonym unintelligible; unfathomable; impenetrable; inexplicable; inconceivable
antonym understandable; comprehensible
word family incomprehensibly; comprehensible; comprehensibility; incomprehensibility; comprehend; comprehension
related phrase incomprehensible to

Example 1 He spent his time devising incomprehensible mathematics puzzles.

Example 2 I find your attitude quite incomprehensible.

⑫ signify ['sɪgnɪfaɪ] *vt.* (signified/signified/signifying)

If an event, a sign, or a symbol signifies something, it is a sign of that thing or represents that thing.

synonym indicate; forecast; mean; signal; express; represent; denote; betoken; imply; suggest
word family signifiable; sign; signage; signifier; significant; significantly; signification
related phrase signify that; signify sth. (to sb.)

Example 1 These were not the only changes that signified the end of boyhood.

Example 2 The image of the lion signified power and strength.

⑬ inhabit [ɪn'hæbɪt] *vt.* (inhabited/inhabited/inhabiting)

If a place or region is inhabited by a group of people or a species of animal, those people or animals live there.

synonym live; dwell; occupy; reside; populate
word family inhabited; inhabitable; inhabitant; inhabitancy; inhabitation

related phrase inhabit a city/an island

Example 1 The valley is inhabited by the Dani tribe.

Example 2 The woods are inhabited by many wild animals.

⑭ **anguish** ['æŋgwɪʃ] ***n.***

Anguish is great mental suffering or physical pain.

synonym torment; torture; pain; affliction; agony; distress
antonym content
word family anguished
related phrase in anguish

Example 1 Mark looked at him in anguish.

Example 2 Culbertson also wrote of his anguish at being separated from his friends and family at such a tragic time.

⑮ **affirmative** [ə'fɜːmətɪv] ***adj.***

An affirmative word or gesture indicates that you agree with what someone has said or that the answer to a question is "yes".

synonym positive; confirmatory; favorable
antonym negative
word family affirmable; affirmatively; affirmation; affirm
related phrase in the affirmative; take the affirmative; affirmative action/vote

Example 1 Haig was desperately eager for an affirmative answer.

Example 2 He asked me if I was ready. I answered in the affirmative.

⑯ **indict** [ɪn'daɪt] ***vt.*** **(indicted/indicted/indicting)**

If someone is indicted for a crime, they are officially charged with it.

synonym sue for; accuse; arraign; impeach; charge
antonym exonerate
word family indictable; indictment; indiction
related phrase indict sb. for sth.

Example 1 He was later indicted on corruption charges.

Example 2 He was indicted for fraud before a grand jury.

⑰ **intrinsic** [ɪn'trɪnsɪk] ***adj.***

If something has intrinsic value or intrinsic interest, it is valuable or interesting because of its basic nature or character, and not because of its connection with other things.

synonym basic; inherent; essential; fundamental; central
antonym extrinsic; acquired
word family intrinsically

related phrase the intrinsic interest of the subject; intrinsic nature/quality/value/property of sth.

Example 1 Diamonds have little intrinsic value and their price depends almost entirely on their scarcity.

Example 2 There is nothing in the intrinsic nature of the work that makes it more suitable for women.

⑱ elementary [ˌelɪˈmentrɪ] *adj.*

Something that is elementary is very simple and basic.

synonym basic; fundamental; essential; primary; first
word family element; elemental
related phrase elementary school; elementary education; elementary analysis

Example 1 Literacy now includes elementary computer skills.

Example 2 I'm only familiar with the subject at an elementary level.

⑲ emphatic [ɪmˈfætɪk] *adj.*

If you are emphatic about something, you use forceful language that shows you feel very strongly about what you are saying.

synonym obvious; prominent; marked; noted; forceful; definite; unequivocal
antonym hesitant; ambiguous
word family emphatically
related phrase emphatic win/victory/defeat; emphatic tone

Example 1 The rebels are emphatic that this is not surrender.

Example 2 "A written apology!" repeated Mr. Wrinkle, in the most emphatic tone of amazement possible.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

antagonism	avail	beak	calorie
categorical	delicious	dioxide	garbage
genetic	greenhouse	havoc	hydraulic
inordinate	jumbo	livestock	loophole
manure	oat	oyster	pasture
pesticide	rapport	slaughterhouse	sulk
supersede	toxic	whit	

Part 2 Text

Why Vegetarianism Is the Best Way to Help the Environment

Bruce is the Vice President for campaigns at People for the Ethical Treatment of Animals (PETA[1]).

The Environment and Vegetarian Link

In 1987, I read *Diet for a Small Planet*[2] and—primarily for human rights and environmental reasons—went vegan. Two decades later, I still deem that—even leaving aside all the animal welfare issues—a vegan diet is the only reasonable diet for people in the developed world who care about the environment or global poverty.

Over the past 20 years, the environmental argument against growing crops to be fed to animals—so that humans can eat the animals—has grown substantially. Just this past November, the environmental problems associated with eating chickens, pigs, and other animals were the subject of a 408-page United Nations scientific report titled *Livestock's Long Shadow*[3].

The U.N. report found that the meat industry contributes to "problems of land degradation, climate change and air pollution, water shortage and water pollution, and dwindling of biodiversity". The report concludes that the meat industry is "one of the most significant contributors to the most serious environmental problems, at every scale from local to global".

Eating Meat Is the No. 1 Consumer Cause of Global Warming

Al Gore[4], Leonardo DiCaprio[5], and others have brought the possibility of the global cataclysm into sharp relief. What they have not been talking about, notwithstanding, is the fact that all cars, trucks, planes, and other types of transportation combined account for about 13 percent of global warming emissions, whereas raising chickens, pigs, cattle, and other animals contributes to 18 percent, according to U.N. scientists. Yes, eating animal products contributes to global warming 40 percent more than all SUVs, 18-wheelers, jumbo jets, and other types of transportation combined.

Al and Leo might not be talking about the connection between meat and global warming, but the Live Earth concert that Al inspired is: The recently published *Live Earth Global Warming Survival Handbook*[6] recommends, "Don't be a chicken. Stop being a pig. Be the first on your block to make cutback on meat." The Handbook further explains that "refusing meat" is "the most effective thing you can do to reduce your carbon footprint".

And Environmental Defense[7], on its website, notes, "If every American skipped one meal of chicken per week and superseded vegetables and grains … the carbon dioxide savings would be the same as taking more than half a million cars off of U.S. roads."

Eating Meat Wastes Resources

If I lie in bed and never get up, I will burn almost 2,500 calories each day; that is what's required to keep my body alive. The same physiological reality applies to all animals: The vast majority of the calories consumed by a chicken, a pig, a cow, or another animal goes into keeping that animal alive, and once you add to that the calories required to create the parts of the animal that we don't eat (e.g. bones, feathers, and blood), you find that it takes more than 10 times as many

calories of feed given to an animal to get one calorie back in the form of edible fat or muscle.

In other words, it's exponentially more efficient to eat grains, soy, or oats directly rather than feed them to farmed animals so that humans can eat those animals. It's like tossing more than 10 plates of spaghetti into the garbage for every one plate you eat.

Resources, Resources and More Resources!

And that's just the pure "calories in, calories out" equation. When you factor in everything else, the situation worsens. Think about the extra stages of production that are required to get dead chickens, pigs, or other animals from the farm to the table:

- Grow more than 10 times as much corn, grain, and soy (with all the required tilling, irrigation, crop dusters, and so on), as would be required if we ate the plants directly.
- Transport—in gas-guzzling, pollution-spewing 18-wheelers—all that grain and soy to feed manufacturers.
- Operate the feed mill (again, using massive amounts of resources).
- Truck the feed to the factory farms.
- Operate the factory farms.
- Truck the animals many miles to slaughterhouses.
- Operate the slaughterhouses.
- Truck the meat to processing plants.
- Operate the meat processing plants.
- Truck the meat to grocery stores (in refrigerated trucks).
- Keep the meat in refrigerators or freezers at the stores.

With every stage comes massive amounts of extra energy usage—and with that comes heavy pollution and massive amounts of greenhouse gases. Obviously, vegan foods require some of these stages, too, but vegan foods cut out the factory farms, the slaughterhouses, and multiple stages of heavily polluting tractor-trailer trucks, as well as all the resources (and pollution) involved in each of those stages. Moreover, as was already noted, vegan foods require less than one-tenth as many calories from crops, since they are turned directly into food rather than funneled through animals first.

Eating Meat Wastes and Pollutes Water

All food requires water, but animal foods are categorically more wasteful of water than vegan foods are. Enormous quantities of water are used to irrigate the corn, soy, and oat fields that are dedicated to feeding farmed animals—and hefty amounts of water are used in factory farms and slaughterhouses. According to the National Audubon Society[8], raising animals for food requires about as much water as all other water uses combined. Environmental author John Robbins estimates that it takes about 300 gallons of water to feed a vegan for a day, four times as much water to feed an ovo-lacto vegetarian, and about 14 times as much water to feed a meat-eater.

Raising animals for food is also a water-polluting process. According to a report by U.S. Senate[9] researchers, animals raised for food in the U.S. produce 86,000 pounds of excrement per second—that's 130 times more than the amount of excrement that the entire human population of the U.S. produces! Farmed animals' manure is more concentrated than human excrement, and

is often contaminated with herbicides, pesticides, toxic chemicals, antibiotics, and other harmful substances. According to the Environmental Protection Agency[10], the runoff from factory farms pollutes our rivers and lakes more than all other industrial sources combined.

Eating Meat Destroys the Rain Forest

The World Bank recently reported that 90 percent of Amazon rainforest land cleared since 1970 is used for meat production. It's not just that we're trampling on the rainforest to make grazing land or pasture for cows—we're also playing havoc with the land to grow feed for them and other animals. Last year, Greenpeace targeted KFC for the destruction of rainforests because the Amazon is being razed to grow feed for chickens that end up in KFC's buckets. Of course, the rainforest is being used to grow feed for other chickens, pigs, and cows, too (KFC isn't the only culprit).

What About Eating Fish?

Anyone who reads the news knows that commercial fishing fleets are plundering the oceans and destroying sensitive marine ecosystems at an incomprehensible rate. One super-trawler is the length of a football field, and can take in 800,000 pounds of fish in a single netting. These trawlers scrape along the ocean floor, clear-cutting coral reefs and everything else in their path. Hydraulic dredges scoop up huge chunks of the ocean floor to sift out scallops, clams, and oysters.

Most of what the fishing fleets pull in isn't even eaten by human beings; half is fed to animals raised for food, and about 30 million tons each year are just tossed back into the ocean, dead, with disastrous and irreversible consequences for the natural biological equilibrium. Then there is aquaculture, which is increasing at a rate of more than 10 percent annually. Aquaculture is even worse than commercial fishing because, it takes about four pounds of wild-caught fish to reap just one pound of farmed fish, which eat fish caught by commercial trawlers.

Farmed fish are often raised in the same water that wild fish swim in, but fish farmers dump antibiotics into the water and use genetic breeding to create "Frankenstein[11] fish". The antibiotics contaminate the oceans and seas, and the genetically engineered fish sometimes escape and breed with wild fish, throwing delicate aquatic balances off-kilter. Researchers at the University of Stockholm demonstrated that the horrible environmental impact of fish farms could extend to an area 50,000 times larger than the farm itself.

Eating Meat Supports Cruelty

Caring for the environment signifies protecting all inhabiting this planet. Chickens, pigs, turkeys, fish, and cows are intelligent, social animals who feel anguish, just as humans, dogs, and cats do. Chickens and pigs do better on animal behavior cognition tests than dogs or cats, and are interesting individuals in the same way. Fish form strong social rapports, and some even use tools. Yet these animals suffer extreme pain and deprivation in today's factory farms.

Chickens have their sensitive beaks cut off with a hot blade, pigs have their tails chopped off and their teeth removed with pliers, and cattle and pigs are castrated—all without any pain relief. The animals are crowded together and given steady doses of hormones and antibiotics in order to make them grow so quickly that their hearts and limbs often cannot keep up, causing crippling and heart attacks. At the slaughterhouse, they are hung upside-down and bled to death, often while they are still conscious.

What About Eating Meat that Isn't from Factory-Farmed Animals?

Is meat better if it doesn't come from factory-farmed animals? The answer is affirmative, but its production still wastes resources and pollutes the environment. Shouldn't we environmentalists challenge ourselves to do the best we can, not just to make choices that are a bit less bad?

The U.N. report looks at meat at a global level and indicts the inefficiency and waste that are intrinsic in meat production. No matter where meat comes from, raising animals for food will require that exponentially more calories be fed to animals than they can produce in their flesh, and it will require all those extra stages of CO_2-intensive production as well. Only grass-fed cows eat food from land that could not otherwise be used to grow food for human beings, and even grass-fed cows require more water and create more pollution than vegan foods do.

Conclusion

The case against eating animal products is ironclad; it's not a new argument, and it goes way beyond just global warming. Animals will not grow or produce flesh, milk, or eggs without food and water; they won't do it without producing excrement; and meat, dairy, and egg production will always cause pollution and be resource-intensive.

If the past is any guide, this essay will generate much antagonism from my meat-eating environmentalist colleagues and, sadly, some sulk. They will prefer half-measures (e.g. meat that is "not as bad" as other meat). They may accuse PETA of being judgmental. They will make various arguments. They will ignore the inordinate amount of arguments against eating animal products and try to find a loophole. Some will just call the argument absurd, presenting not a whit of evidence at all.

But as Leonardo DiCaprio has noted, this is the 11th hour for the environment. Where something as elementary as eating animals is concerned, the choice could not be any clearer: Every time we sit down to eat, we can choose to eat a product that is, according to U.N. scientists, "one of the most significant contributors to the most serious environmental problems, at every scale from local to global", or we can choose vegan—and preferably organic—foods. It's time to stop looking for loopholes. (in an emphatic tone)

Considering the proven health avails of a vegetarian diet—the American Dietetic Association states that vegetarians have a reduced risk of obesity, heart disease, and various types of cancer—there's no need or excuse to eat chickens, pigs, eggs, and other animal products. And vegan foods are available everywhere and taste delicious; as with all foods—vegan or not—you just need to find the ones you like.

(Adapted from "Why Vegetarianism Is the Best Way to Help the Environment", http://www.veganjohn.com/whyveg.html, written by Bruce Friedrich)

Notes



PETA

People for the Ethical Treatment of Animals (PETA) is the largest animal rights organization in the world, with more than 5 million members and supporters.

PETA focuses its attention on the four areas in which the largest numbers of animals suffer the most intensely for the longest periods of time: in the food industry, in the clothing trade,

in laboratories, and in the entertainment industry. They also work on a variety of other issues, including the cruel killing of rodents, birds, and other animals who are often considered "pests" as well as cruelty to domesticated animals.

PETA works through public education, cruelty investigations, research, animal rescue, legislation, special events, celebrity involvement, and protest campaigns.

② *Diet for a Small Planet*

Diet for a Small Planet is a 1971 best-selling book by Frances Moore Lappé, the first major book to note the environmental impact of meat production as wasteful and a contributor to global food scarcity. She argued for environmental vegetarianism, which means choosing what is the best for the earth and our bodies—a daily action that reminds us of our power to create a saner world.

The book has sold over three million copies and was groundbreaking for arguing that world hunger is not caused by a lack of food but by the ineffective food policy. In addition to information on meat production and its impact on hunger, the book features simple rules for a healthy diet and hundreds of meat-free recipes. "Its mix of recipes and analysis typified radicals' faith in the ability to combine personal therapy with political activism."

③ *Livestock's Long Shadow*

Livestock's Long Shadow: Environmental Issues and Options is a United Nations report, released by the Food and Agriculture Organization of the United Nations (FAO) on November 29, 2006, that "aims to assess the full impact of the livestock sector on environmental problems, along with potential technical and policy approaches to mitigation".

④ Al Gore

Albert Arnold "Al" Gore Jr. is an American politician and environmentalist who served as the 45th Vice President of the United States from 1993 to 2001 under President Bill Clinton. He was Clinton's running mate in their successful campaign in 1992, and was re-elected in 1996. At the end of Clinton's second term, Gore was picked as the Democratic nominee for the 2000 presidential election. After leaving office, Gore remained prominent as an author and environmental activist, whose work in climate change activism earned him (jointly with the IPCC) the Nobel Peace Prize in 2007.

⑤ Leonardo DiCaprio

Leonardo Wilhelm DiCaprio is an American actor and film producer. DiCaprio began his career by appearing in television commercials in the late 1980s, after which he had recurring roles in various television series such as the soap opera *Santa Barbara* and the sitcom *Growing Pains*. He began his film career by starring as Josh in *Critters 3* (1991). He starred in the film adaptation of the memoir *This Boy's Life* (1993), and was praised for his supporting role in *What's Eating Gilbert Grape* (1993). He gained public recognition with leading roles in *The Basketball Diaries* (1995) and the romantic drama *Romeo + Juliet* (1996), before achieving international fame with James Cameron's epic romance *Titanic* (1997), which became the highest-grossing film of all time until Cameron's science fiction film *Avatar* (2009) overtook it.

⑥ *Live Earth Global Warming Survival Handbook*

Live Earth Global Warming Survival Handbook describes ways to prevent global warming, including screwing in the right light bulb, choosing the right grocery bag, and eating vegetables, and includes ten humorous ways to survive on an overheated planet, including buying a camel.

⑦ Environmental Defense

Environmental Defense Fund or EDF (formerly known as Environmental Defense) is a United States–based nonprofit environmental advocacy group. The group is known for its work on issues including global warming, ecosystem restoration, oceans, and human health, and advocates using sound science, economics and law to find environmental solutions that work. It is nonpartisan, and its work often advocates market-based solutions to environmental problems.

⑧ the National Audubon Society

The National Audubon Society was founded in 1905 and was named after the U.S. bird artist and ornithologist, John James Audubon. The organization is dedicated to the conservation of wildlife, water, soil, plants, and other natural resources. The main goal of the National Audubon Society is to educate people of the need to protect wildlife and other resources from pollution and other toxins. They have over 625 chapters and affiliated clubs across the United States with researchers and volunteers to help accomplish this goal.

⑨ U.S. Senate

The United States Senate is the upper chamber of the United States Congress which, along with the House of Representatives, the lower chamber, composes the legislature of the United States. The composition and powers of the Senate are established by Article One of the United States Constitution. The Senate is composed of senators, each of whom represents a single state in its entirety, with each state being equally represented by two senators, regardless of its population, serving staggered terms of six years; with fifty states presently in the Union, there are 100 U.S. Senators. From 1789 until 1913, Senators were appointed by the legislatures of the states they represented; following the ratification of the Seventeenth Amendment in 1913, they are now popularly elected. The Senate chamber is located in the north wing of the Capitol, in Washington, D.C..

⑩ Environmental Protection Agency

The United States Environmental Protection Agency (EPA or sometimes USEPA) is an agency of the federal government of the United States which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress. President Richard Nixon proposed the establishment of EPA and it began operation on December 2, 1970, after Nixon signed an executive order. The order establishing the EPA was ratified by committee hearings in the House and Senate. The agency is led by its Administrator, who is appointed by the President and approved by Congress. The EPA is not a Cabinet department, but the Administrator is normally given cabinet rank.

⑪ Frankenstein

Frankenstein, or *The Modern Prometheus* is a novel written by English author Mary Shelley that tells the story of Victor Frankenstein, a young scientist who creates a grotesque but sapient creature in an unorthodox scientific experiment. Shelley started writing the story when she was 18, and the first edition of the novel was published anonymously in London in 1818, when she was 20.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What is the link between the meat industry and the environment according to the U.N. report?
2) What is the most effective thing people can do to reduce their carbon footprint according to *Live Earth Global Warming Survival Handbook*?
3) How does the writer explain that eating meat wastes resources?
4) How will eating meat destroy the rainforest?
5) What kind of problems can eating fish cause?
6) What kind of conclusion is reached in this passage?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (True) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The U.N. report drew the conclusion that meat industry contributed much to the most serious environmental problems, at every scale from local to global.
2) ________ According to U.N. scientists, all cars, trucks, planes, and other types of transportation combined account for about 18 percent of global warming emissions, whereas raising chickens, pigs, cattle, and other animals contributes to 13 percent.
3) ________ Vegan food require more than one–tenth as many calories from crops, since they are turned directly into food rather than funneled through animals first.
4) ________ All food requires water, but animal foods are categorically more wasteful of water than vegan foods are.
5) ________ Farmed fish are often raised in the different water that wild fish swim in, but fish farmers dump antibiotics into the water and use genetic breeding to create "Frankenstein fish".

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

whisker	wring	zombie	yum	arcade	asylum	audacity	bachelor
algebra	capillary	absurd	avail	beak	deem	dioxide	

1) I managed to ________ information out of him.
2) They ________ that he was no longer capable of managing the business.
3) I walked around like ________ for most of the day.
4) How much carbon ________ you save, if any, depends on how far you live from work and how you get there, among other things.
5) Gerald was 38, and a confirmed ________.
6) And ever since then, Raven has had a curved ________.
7) It seems an ________ idea.
8) When air cools at night, dew collects on the lizard's skin and is pulled to its mouth by ________ action.
9) We searched the whole area but all to no ________.
10) The court committed her to a lunatic ________.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) The report concludes that the meat industry is "one of the most significant contributors to the most serious environmental problems, at every scale from local to global".
2) Yes, eating animal products contributes to global warming 40 percent more than all SUVs, 18-wheelers, jumbo jets, and other types of transportation combined.
3) If I lie in bed and never get up, I will burn almost 2,500 calories each day; that is what's required to keep my body alive.
4) Environmental author John Robbins estimates that it takes about 300 gallons of water to feed a vegan for a day, four times as much water to feed an ovo-lacto vegetarian, and about 14 times as much water to feed a meat-eater.
5) Anyone who reads the news knows that commercial fishing fleets are plundering the oceans and destroying sensitive marine ecosystems at an incomprehensible rate.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the following words given below.

canine	cannibal	capita	bodyguard	bloc	cavern
corpse	coastguard	dub	goalkeeper	gobble	

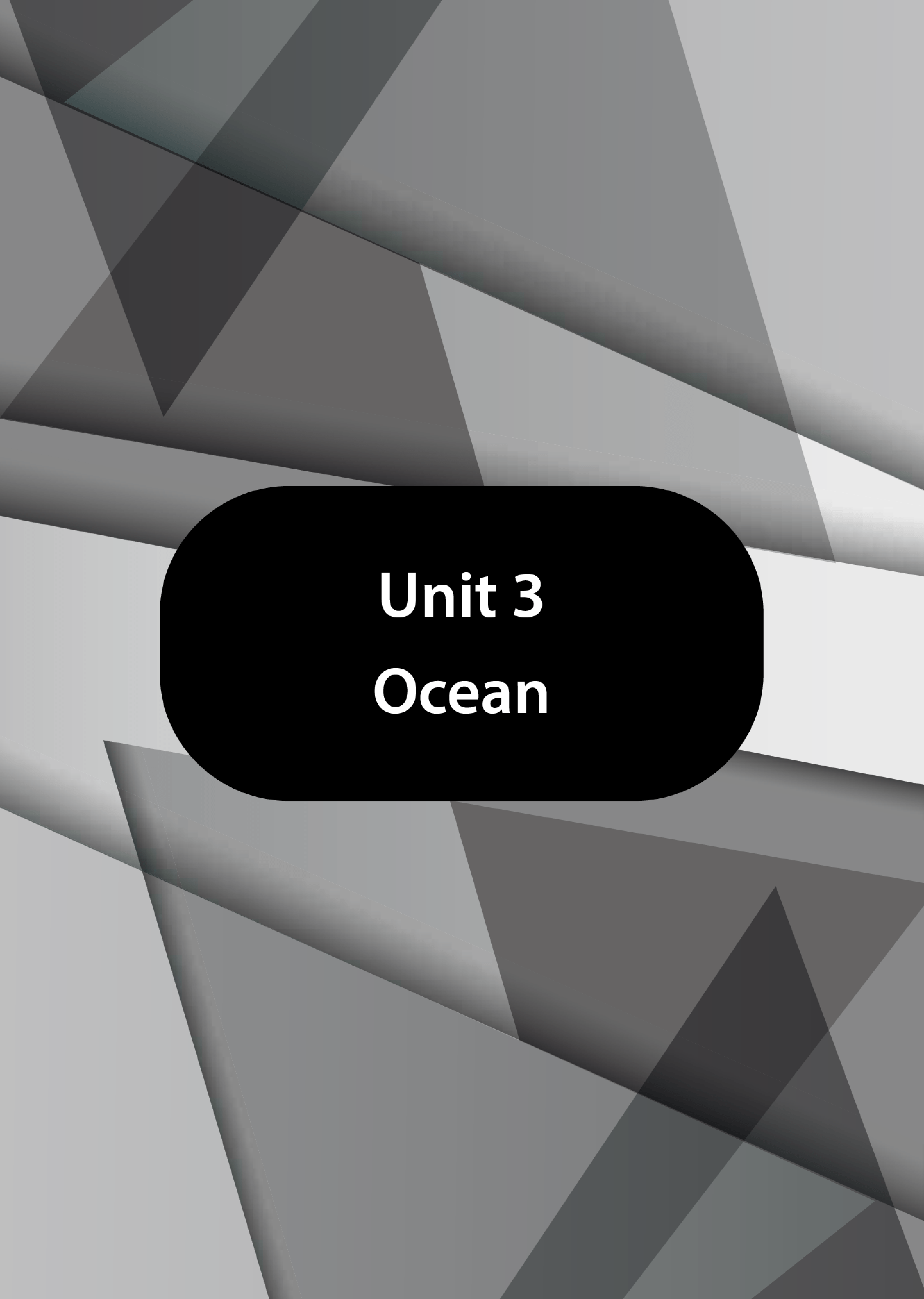
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

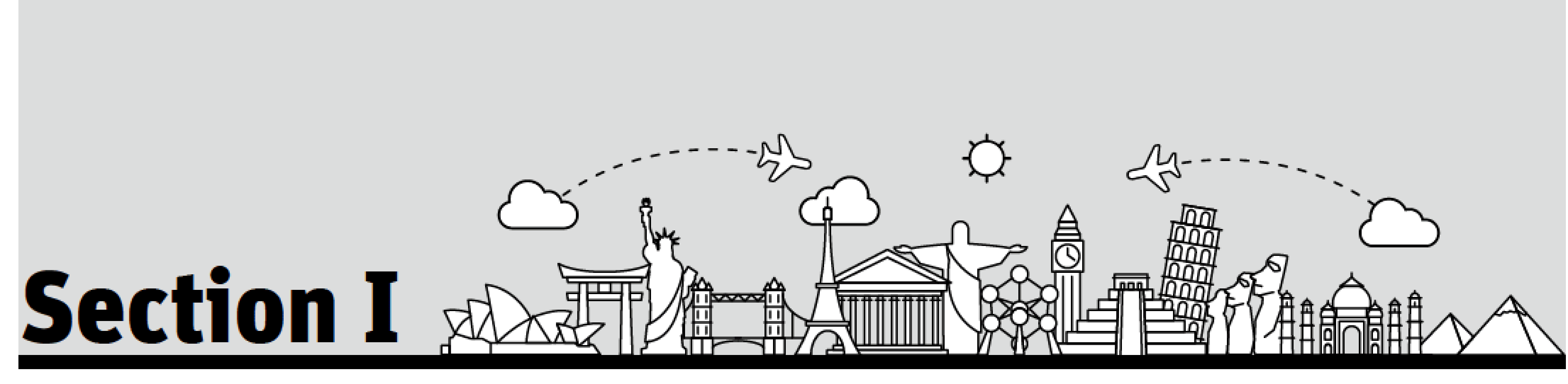
1) lumber	**a.** a smooth, shiny kind of cloth, usually made from silk
2) journalism	**b.** to consist of trees and large pieces of wood that have been roughly cut up
3) magician	**c.** a noisy bird with blue or grey feathers
4) mortar	**d.** the job of collecting news and writing about it for newspapers, magazines, television, or radio
5) naff	**e.** a big gun that fires missiles high into the air over a short distance
6) newsagent	**f.** a flat, round piece of dough covered with tomatoes, cheese, and other toppings and then baked in an oven
7) passageway	**g.** a small curved plate on which you stand a cup
8) pavilion	**h.** you put or have one leg on either side of it
9) jay	**i.** the way that your parents treat you and the things that they teach you when you are growing up
10) pizza	**j.** a large temporary structure such as a tent that is used at outdoor public events
11) satin	**k.** a person who entertains people by doing magic tricks
12) saucer	**l.** in poor taste
13) straddle	**m.** a shopkeeper who sells newspaper, stationery, etc.
14) upbringing	**n.** the yellow liquid waste that comes out of the body from the bladder
15) urine	**o.** a long narrow space with walls or fences on both sides, that connects one place or room with another

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. housekeeper	B. landlady	C. freebie	D. headmistress
2)	( )	A. backlog	B. dyke	C. hag	D. bridesmaid
3)	( )	A. backbench	B. acrobat	C. Viking	D. winkle
4)	( )	A. biro	B. cartridge	C. pushchair	D. proverb
5)	( )	A. Briton	B. Samaritan	C. Nazi	D. Philippine



Unit 3
Ocean



Section I

Focus on Connecting the General to the Specific in Reading and Writing

Sentences in written texts differ in how much specific content they have. Written texts are a mixture of such general and specific statements. It has been observed for example that technical writing has an hour-glass like structure. The introduction starts with general content, and then the text narrows down to specific content in the methods and results section. The conclusion starts with specific content but gradually becomes general. To make sure you have a clear understanding of terms like general and specific, this part explains the meaning of both in some detail.

General and Specific Words

You'll soon be working with general and specific sentences, but let's begin with general and specific words. Once you learn to distinguish, or see the difference between general and specific words, it's easy to identify general and specific sentences.

Here are two lists of words, one labeled general, the other specific. As you read each list, think about these two questions: How do the words in each list differ? What makes one word general and another one specific?

General	**Specific**
creature	dogs
silver	nickels
expression	smile
object	statue
liquid	ink
flower	daisy
machine	computer

Did you notice that the words on the left can be interpreted, or understood, in a variety of ways? The word *creature*, for example, is broad enough to include everything from cows to children. The word *dogs*, however, quickly eliminates both the cows and the children. We are now talking about a specific type of creatures—one that barks, has four legs, and wags its tail.

Similarly, the word *silver* can refer to table settings or to money. The work *nickels*, however, quickly eliminates all other possibilities. It refers to coins rather than forks.

With these illustrations in mind, we can sum up the differences between general and specific words.

General words are broad in space. They refer to or include a wide variety of different things and thus can be understood in several ways.

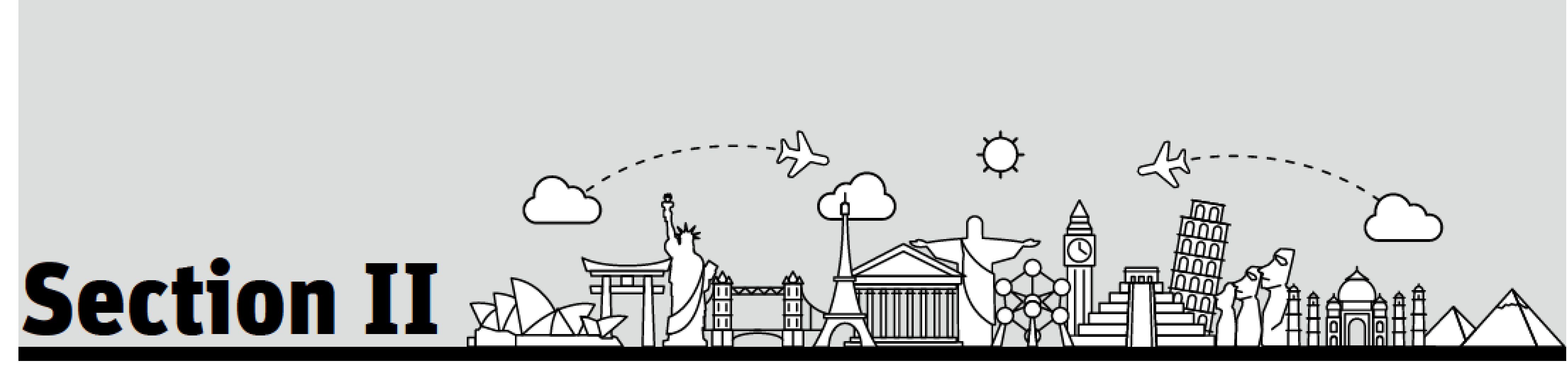
Specific words, in contrast, are much narrower in focus. Because they cover less territory, they can't be understood in so many different ways. General words expand meaning; specific words narrow or focus it. To make ourselves understood, we need both kinds of words. We need general words to sum up our experiences and specific words to explain or clarify them.

The Reader's Role

Readers need to follow the writer's train of thought through all of its twists and turns. On the most basic level, this means being on the lookout for general statements that sum up a variety of people, events, or ideas. Having spotted those statements, readers need to connect them to the more specific sentences used as clarification or proof. It's only by connecting the two kinds of sentences that the reader can determine the author's meaning.

Fulfilling the reader's role and making the right connections come naturally to readers who keep the following three questions in mind while reading:

1) Where are the most general statements in the reading?
2) What questions do they raise?
3) Where are the specific sentences that answer those questions?



Section II

Text A: The Sea Is Suffering

Part 1 Power of Words

Core Words

① **thrive** [θraɪv] ***vi.*** **(thrived/thrived/thriving)**

If someone or something thrives, they do well and are successful, healthy, or strong.

synonym	flourish; bloom; blossom; prosper; boom
word family	thriving
related phrase	thrive on sth.

Example 1 His business managed to thrive during a recession.

Example 2 Decades of research have shown that human babies and many animal babies need touch not only to survive, but to thrive.

② **delude** [dɪ'lu:d] ***vt.*** **(deluded/deluded/deluding)**

to make someone believe something that is not true

synonym	deceive; take in; cheat; mislead; con
word family	delusive; delusively; delusion
related phrase	delude sb./yourself into doing sth.

Example 1 I was angry with him for trying to delude me.

Example 2 We should not delude ourselves into thinking the dean was an honest man.

③ **astound** [ə'staʊnd] ***vt.*** **(astounded/astounded/astounding)**

If something astounds you, you are very surprised by it.

synonym	shock; appall; amaze; astonish; surprise; dumbfound
word family	astounding; astoundingly; astounded

Example 1 He used to astound his friends with feats of physical endurance.

Example 2 He was astounded at his emotional change. He was able to laugh though he was in such a dilemma.

④ **abundance** [ə'bʌndəns] ***n.***

An abundance of something is a large quantity of it.

synonym	plenty; amplitude; enrichment; copiousness; lavishness; profusion; richness
antonym	scarcity

word family abundant; abundantly; abound
related phrase in abundance; an abundance of; relative abundance

Example 1 This area of Mexico has an abundance of safe beaches and a pleasing climate.

Example 2 It was a time of abundance, prosperity, peace, and love for all.

⑤ **vanish** ['vænɪʃ] ***vi.*** **(vanished/vanished/vanishing)**

If someone or something vanishes, they disappear suddenly or in a way that cannot be explained; If something such as a species of animal or a tradition vanishes, it stops existing.

synonym disappear; evaporate; fade; wane
antonym appear
word family vanishing; vanishingly
related phrase vanish from; vanish away

Example 1 He just vanished and was never seen again.

Example 2 Many of these species have vanished or are facing extinction.

⑥ **holocaust** ['hɒləkɔːst] ***n.***

A holocaust is an event in which there is a lot of destruction and many people are killed, especially one caused by war.

synonym destruction; death
related phrase Holocaust Memorial

Example 1 A nuclear holocaust seemed a very real possibility in the 1950s.

Example 2 "No one in his right mind would choose to have that sort of holocaust," he says.

⑦ **mutilate** ['mjuːtɪleɪt] ***vt.*** **(mutilated/mutilated/mutilating)**

If a person or animal is mutilated, their body is severely damaged, usually by someone who physically attacks them.

synonym destroy; damage; cut off
word family mutilated; mutilation; mutilator
related phrase mutilate sb./sth.

Example 1 He tortured and mutilated six young men.

Example 2 More than 30 horses have been mutilated in the last nine months.

⑧ **profusion** [prə'fjuːʒn] ***n.***

If there is a profusion of something or if it occurs in profusion, there is a very large quantity or variety of it.

synonym abundance; plenty; amplitude; enrichment; large amount; excess; cornucopia; plethora
antonym dearth
word family profuse; profusely; profuseness
related phrase in profusion

Example 1 The girl with red hair found a delightful river with a profusion of wild flowers along its banks.

Example 2 The house was overflowing with a profusion of strange ornaments.

⑨ **feeble** ['fi:bl] ***adj.***

If you describe someone or something as feeble, you mean that they are weak.

synonym	weak; frail; delicate; shaky; thin
antonym	robust; convincing
word family	feebleminded; feebly; feebleness
related phrase	feeble attempt/excuse/argument

Example 1 He told them he was old and feeble and was not able to walk so far.

Example 2 She was too feeble to leave her room.

⑩ **disintegrate** [dɪs'ɪntɪgreɪt] ***vi.*** **(disintegrated/disintegrated/disintegrating)**

If something disintegrates, it becomes seriously weakened, and is divided or destroyed.

synonym	crumble; fragment; break; collapse; split
antonym	combine
word family	disintegrative; disintegration

Example 1 In October 1918 the Austro-Hungarian Empire began to disintegrate.

Example 2 The bonds between my parents and sisters continued to disintegrate.

⑪ **elapse** [ɪ'læps] ***vi.*** **(elapsed/elapsed/elapsing)**

When time elapses, it passes.

synonym	pass; pass by; slip away; go by; ebb away

Example 1 Forty-eight hours have elapsed since his arrest.

Example 2 Several months elapsed before his case was brought to trial.

⑫ **emit** [ɪ'mɪt] ***vt.*** **(emitted/emitted/emitting)**

If something emits heat, light, gas, or a smell, it produces it and sends it out by means of a physical or chemical process.

synonym	produce; release; give off; give out; send out
antonym	absorb
word family	emitter
related phrase	emit radiation/sound/odor/heat

Example 1 The kettle emitted a shrill whistle.

Example 2 The new device emits a powerful circular column of light.

⑬ **transpire** [træn'spaɪə] ***vi.*** **(transpired/transpired/transpiring)**

When something transpires, it happens.

synonym occur; happen; proceed; take place; go on; come about
related phrase it transpires that ...

Example 1 Nothing is known as yet about what transpired at the meeting.

Example 2 I need to know a little bit about what is going to transpire after that drunken evening.

⑭ **smother** ['smʌðə] ***vt.*** **(smothered/smothered/smothering)**

To smother someone means to kill them by covering their face with something so that they cannot breathe.

synonym suffocate; stifle; choke; asphyxiate; overwhelm
word family smothery
related phrase smother sb. with sth.

Example 1 He tried to smother her with a pillow.

Example 2 A teenage mother was accused of smothering her 3-month-old daughter.

⑮ **stranded** ['strændɪd] ***adj.***

left somewhere with no way of going anywhere else

synonym beached; aground; stuck; high and dry
word family strand

Example 1 Air travellers were left stranded because of icy conditions.

Example 2 There I was, stranded in Rome with no money.

⑯ **underpin** [ˌʌndə'pɪn] ***vt.*** **(underpinned/underpinned/underpinning)**

If one thing underpins another, it helps the other thing to continue or succeed by supporting and strengthening it.

synonym shore up; prop up; reinforce; support; buttress
antonym undermine; weaken
word family underpinning

Example 1 His conclusions are underpinned by experimental findings.

Example 2 It is important to significantly increase the programme's size, so as to underpin business confidence.

⑰ **grim** [ɡrɪm] ***adj.***

A situation or piece of information that is grim is unpleasant, depressing, and difficult to accept.

synonym harsh; forbidding; depressing
antonym attractive; hopeful; excellent
word family grimly; grimness
related phrase grim reality/picture/determination/prospect/expression

Example 1 They painted a grim picture of the growing crime.

Example 2 There was further grim economic news yesterday.

⑱ **misfortune** [mɪs'fɔːtʃn] ***n.***

A misfortune is something unpleasant or unlucky that happens to someone.

synonym disaster; evil; tragedy; grief; calamity; trial; tribulation; misadventure

antonym opportunity

related phrase unexpected/great misfortune

Example 1 She seemed to enjoy the misfortunes of others.

Example 2 It seems the banks always profit from farmers' misfortunes.

⑲ **sabotage** ['sæbətɑːʒ] ***vt.* (sabotaged/sabotaged/sabotaging)**

If a machine, railway line, or bridge is sabotaged, it is deliberately damaged or destroyed, for example, in a war or as a protest.

synonym disrupt; damage; interfere with; interrupt; harm

word family saboteur

Example 1 The main pipeline supplying water was sabotaged by rebels.

Example 2 Demonstrators have sabotaged the conference.

⑳ **threshold** ['θreʃhəʊld] ***n.***

A threshold is an amount, level, or limit on a scale; When the threshold is reached, something else happens or changes; the entrance to a room or building

synonym doorway; doorstep; entrance; entry

antonym end

related phrase be on the threshold of sth.; stumble at/on the threshold

Example 1 She opened the door and stepped across the threshold.

Example 2 The creature is on the threshold of extinction.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

adrift	ascend	calcium	demise
estuary	everlasting	evict	exotic
famine	fossil	habitat	heady
lug	mesh	mighty	perpetuate
ply	predator	recoup	reinstate
scent	shark	sludge	snail
sob	suppress	tamper	turtle
uptake			

Part 2 Text

The Sea Is Suffering

All of us have in our veins the exact same percentage of salt in our blood that exists in the ocean … And when we go back to the sea … we are going back from whence we came.

John Kennedy

Human beings no longer thrive under the water from which their ancestors emerged, but their relationship with the sea remains close. Over half the world's people live within 100 kilometres (62 miles) of the coast; a tenth are within 10 km. On land at least, the heady sea delights the senses and excites the imagination. The sight and scent of the sea inspire courage and adventure, fear and romance. Though the waves may be rippling or mountainous, the waters angry or calm, the ocean itself is everlasting. Its moods pass. Its tides keep to a rhythm. It is unchanging.

Or so it has long seemed. Appearances delude us, though. Large parts of the sea may indeed remain perpetuate, but in others, especially in the surface and coastal waters where 90% of marine life is to be found, the impact of man's activities is increasingly plain. This should hardly be astounding. Man has changed the landscape and the atmosphere. It would be odd if the seas, which he has for centuries used for food, for transport, for dumping rubbish and, more recently, for recreation, had not also been affected.

The evidence exists in abundance. The fish that once seemed an inexhaustible source of food are now almost everywhere in decline: 90% of large predatory fish (the big ones such as tuna[1], swordfish[2] and sharks) have gone, according to some scientists. In estuaries and coastal waters, 85% of the large whales have vanished, and nearly 60% of the small ones. Many of the smaller fish are also in decline. Indeed, most familiar sea creatures, from albatrosses to walruses, from seals to oysters[3], have suffered huge losses.

All this has happened fairly recently. Cod[4] have been caught off Nova Scotia[5] for centuries, but their systematic holocaust began only after 1852; in terms of their biomass (the aggregate mass of the species), they are now 96% depleted. The killing of turtles in the Caribbean (99% down) started in the 1700s. The hunting of sharks in the Gulf of Mexico[6] (45%–99%, depending on the variety) got going only in the 1950s.

The habitats of many of these creatures have also been affected by man's activities. Cod live in the bottom layer of the ocean. Trawlermen in pursuit of these and other groundfish like pollock and haddock drag steel weights and rollers as well as small mesh behind their boats, mutilating huge areas of the sea floor as they go. In the Gulf of Mexico, trawlers ply back and forth year in year out, lugging vast nets that scarify the seabed and allow no time for plant and animal life to reinstate. Off New England, off west Africa, in the Sea of Okhotsk[7] north of Japan, off Sri Lanka, wherever fish can still be found, it is much the same story.

Coral reefs, whose profusion of life and diversity of ecosystems make them the rainforests of the sea, have suffered most of all. Once home to prolific concentrations of big fish, they have attracted human hunters prepared to use any means, even dynamite, to kill their prey. Perhaps only 5% of coral reefs can now be considered pristine, a quarter have been lost and all are feeble to global warming.

A hotter atmosphere has several effects on the sea. First, it means higher average temperatures for surface waters. (As the surface ocean heats up, the ocean becomes more stratified; there is less upwelling or mixing of nutrient-rich deep ocean water with surface waters and this tends to suppress photosynthesis, which will in turn leads to the decline of the ocean productivity such as an oceanic famine. Eventually it will have a large impact on ocean fisheries and CO_2 uptake by the ocean.) One consequence for coral reefs is that the symbiosis between the corals and algae that constitute a living reef is breaking disintegrated. As temperatures rise, the algae leave or are evicted, the corals take on a bleached, white appearance and may then meet their demise.

Hotter Water, Slimier Sludge

Warming also has consequences for ice: it melts (as time elapses). Melting sea ice affects ecosystems and currents. It does not affect sea levels, because ice adrift is already displacing water of a weight equal to its own. But melting glaciers and ice sheets on land are bringing quantities of fresh water into the sea, whose level has been rising at an average of nearly 2 millimetres a year for over 40 years, and the pace is getting ascending. Recent studies suggest that the sea level may well rise by a total of 80 centimetres this century, though the figure could plausibly be as much as 2 metres.

The burning over the past 100 years or so of fossil fuels that took half a billion years to form has suddenly, in geological terms, put an enormous amount of carbon dioxide into the atmosphere. About a third of this CO_2 is taken up by the sea, where it forms carbonic acid. The plants and animals that have evolved over time to thrive in slightly alkaline surface waters—their pH is around 8.3—are now having to adapt to a 30% increase in the acidity of their surroundings. Some will no doubt flourish, but if the trend continues, as it will for at least some decades, clams, mussels, conches and all creatures that grow shells made of calcium carbonate will struggle. So will corals, especially those whose skeletons are composed of aragonite, a particularly unstable form of calcium carbonate.

Man's tampering does not stop with emitting CO_2. Knowingly and deliberately, he throws plenty of rubbish into the sea, everything from sewage to rubber tyres and from plastic packaging to toxic waste. Inadvertently, he also lets flame retardants, bunker oil and heavy metals seep into the mighty ocean, and often exotic invasive species, too. Much of the harm done by such pollutants is invisible to the eye: it shows up only in the analysis of dead polar bears or in tuna served in New York sushi bars.

Increasingly, though, swimmers, sailors and even those who monitor the sea with the help of satellites are encountering highly visible algal blooms known as red tides. These have always transpired naturally, but they have increased in frequency, number and size in recent years, notably since man-made nitrogen fertilisers came into widespread use in the 1950s. When rainwater contaminated with these fertilisers and other nutrients reach the sea, as it does where the Mississippi runs into the Gulf of Mexico, an explosion of toxic algae and bacteria takes place, killing fish (or causing marine animals smothered and stranded), absorbing almost all the oxygen and leaving a microbially dominated ecosystem, often based on a carpet of slime (sludge).

Each of these phenomena would be grim enough on its own, but all appear to be linked, usually synergistically. Slaughter one species in the food web and you set off a chain of alterations above or below. Thus the near extinction of sea otters in the northern Pacific led to a proliferation

of sea urchins, which then laid waste an entire kelp forest that had hitherto underpinned its own ecosystem. If acidification kills tiny sea snails known as pteropods, as it is likely to, the Pacific salmon that feed upon these planktonic creatures may also die. Then other fish may move in, preventing the salmon from coming back, just as other species did when cod were all but fished out in Georges Bank, off New England.

Whereas misfortunes that came singly might not prove fatal, those that come in combination often prove overwhelming. The few coral reefs that remain pristine seem able to cope with the warming and acidification[8] that none can escape, but most of the reefs that have also suffered overfishing or pollution have succumbed to bleaching or even death. Biodiversity comes with interdependence, and the shocks administered by mankind in recent decades have been so numerous and so severe that the natural balance of marine life is everywhere sabotaged.

Each of these changes is a catastrophe. Even Neptune[9] would sob. Are these changes reversible? Most scientists believe that fisheries, for instance, could be recouped to health with the right policies, properly enforced. But many of the changes are speeding up, not slowing down. Some, such as the acidification of the seas, will continue for years to come simply because of events already in train or past. And some, such as the melting of the Arctic ice cap, may be close to the threshold at which an abrupt, and perhaps irreversible, series of happenings is set in motion.

It is clear, in any event, that man must change his ways. Humans could afford to treat the sea as an infinite resource when they were relatively few in number, capable of only rather inefficient exploitation of the vasty deep and without as yet a taste for fossil fuels. A world of 6.7 billion souls, set to become 9 billion by 2050, can no longer do so. The possibility of widespread catastrophe is simply too great.

(Adapted from "Troubled Waters", http://blog.ecocn.org/archives/696# more-696, from *The Economist*)

Notes



tuna

A tuna is a saltwater fish that belongs to the tribe Thunnini, a sub-grouping of the mackerel family—which together with the tunas, also includes the bonitos, mackerels, and Spanish mackerels. Tuna, opah and mackerel sharks are the only species of fish that can maintain a body temperature higher than that of the surrounding water. An active and agile predator, the tuna has a sleek, streamlined body, and is among the fastest-swimming pelagic fish—the yellowfin tuna, for example, is capable of speeds of up to 75 km/h (47 miles per hour). Found in warm seas, it is extensively fished commercially, and is popular as a game fish. As a result of over-fishing, stocks of some tuna species such as the southern bluefin tuna have been reduced dangerously close to the point of extinction.

② swordfish

Swordfish, also known as broadbills in some countries, are large, highly migratory, predatory fish characterized by a long, flat bill. They are a popular sport fish of the billfish category, though elusive. Swordfish are elongated, round-bodied, and lose all teeth and scales by adulthood. These fish are found widely in tropical and temperate parts of the Atlantic, Pacific,

and Indian Oceans, and can typically be found from near the surface to a depth of 550 m (1,800 ft). They commonly reach 3 m (9.8 ft) in length, and the maximum reported is 4.55 m (14.9 ft) in length and 650 kg (1,430 lb) in weight.

③ oysters

Oyster is the common name for a number of different families of salt-water bivalve molluscs that live in marine or brackish habitats. In some species the valves are highly calcified, and many are somewhat irregular in shape. Many, but not all, oysters are in the superfamily Ostreoidea. Some kinds of oysters are commonly consumed by humans, cooked or raw, and are regarded as a delicacy. Some kinds of pearl oysters are harvested for the pearl produced within the mantle. Windowpane oysters are harvested for their translucent shells, which are used to make various kinds of decorative objects.

④ Cod

Cod is the common name for the genus Gadus of demersal fishes, belonging to the family Gadidae. Cod is also used as part of the common name for a number of other fish species, and some species suggested to belong to genus Gadus are not called cod (the Alaska pollock). The two most common species of cod are the Atlantic cod, which lives in the colder waters and deeper sea regions throughout the North Atlantic, and the Pacific cod, found in both eastern and western regions of the northern Pacific. Gadus morhua was named by Linnaeus in 1758. Cod is popular as a food with a mild flavour and a dense, flaky, white flesh. Cod livers are processed to make cod liver oil, an important source of Vitamin A, Vitamin D, Vitamin E, and omega-3 fatty acids (EPA and DHA). Young Atlantic cod or haddock prepared in strips for cooking is called scrod. In the United Kingdom, Atlantic cod is one of the most common ingredients in fish and chips, along with haddock and plaice.

⑤ Nova Scotia

Nova Scotia is one of Canada's three maritime provinces, and one of the four provinces which form Atlantic Canada. Its provincial capital is Halifax. Nova Scotia is Canada's second-smallest province, with an area of 55,284 square kilometres (21,300 square miles), including Cape Breton and another 3,800 coastal islands. As of 2016, the population was 923,598. Nova Scotia is the second most-densely populated province in Canada with 17.4 inhabitants per square kilometre (45 per square mile).

⑥ Gulf of Mexico

The Gulf of Mexico is an ocean basin largely surrounded by the North American continent. It is bounded on the northeast, north and northwest by the Gulf Coast of the United States, on the southwest and south by Mexico, and on the southeast by Cuba. The U.S. states Alabama, Florida, Louisiana, Mississippi and Texas border the Gulf on the north, which are often referred to as the "Third Coast" in comparison with the U.S. Atlantic and Pacific coasts, or sometimes the "south coast", in juxtaposition to the Great Lakes region being the "north coast". One of the gulf's seven main areas is the Gulf of Mexico basin.

⑦ Sea of Okhotsk

The Sea of Okhotsk is a marginal sea of the western Pacific Ocean, lying between the Kamchatka

Peninsula on the east, the Kuril Islands on the southeast, the island of Hokkaido to the south, the island of Sakhalin along the west, and a long stretch of eastern Siberian coast (the Shantar Sea) along the west and north. The northeast corner is the Shelikhov Gulf. The sea is named after Okhotsk, the first Russian settlement in the Far East.

8 acidification

Ocean acidification is the ongoing decrease in the pH of the Earth's oceans, caused by the uptake of carbon dioxide (CO_2) from the atmosphere. Seawater is slightly basic (meaning pH > 7), and the process in question is a shift towards pH-neutral conditions rather than a transition to acidic conditions (pH < 7). Ocean alkalinity is not changed by the process, or may increase over long time periods due to carbonate dissolution. An estimated 30%–40% of the carbon dioxide from human activity released into the atmosphere dissolves into oceans, rivers and lakes. To achieve chemical equilibrium, some of it reacts with the water to form carbonic acid. Some of these extra carbonic acid molecules react with a water molecule to give a bicarbonate ion and a hydronium ion, thus increasing ocean acidity (H^+ ion concentration). Between 1751 and 1996 surface ocean pH is estimated to have decreased from approximately 8.25 to 8.14, representing an increase of almost 30% in H^+ ion concentration in the world's oceans. Earth System Models project that within the last decade ocean acidity exceeded historical analogues and in combination with other ocean biogeochemical changes could undermine the functioning of marine ecosystems and disrupt the provision of many goods and services associated with the ocean.

Increasing acidity is thought to have a range of potentially harmful consequences for marine organisms such as depressing metabolic rates and immune responses in some organisms, and causing coral bleaching. By increasing the presence of free hydrogen ions, each molecule of carbonic acid that forms in the oceans ultimately results in the conversion of carbonate ions into bicarbonate ions. This net decrease in the amount of carbonate ions available makes it more difficult for marine calcifying organisms such as coral and some plankton, to form biogenic calcium carbonate, and such structures become vulnerable to dissolution. Ongoing acidification of the oceans threatens food chains connected with the oceans. As members of the InterAcademy Panel, 105 science academies have issued a statement on ocean acidification recommending that by 2050, global CO_2 emissions be reduced by at least 50% compared to the 1990 level. While ongoing ocean acidification is anthropogenic in origin, it has occurred previously in Earth's history. The most notable example is the Paleocene-Eocene Thermal Maximum (PETM), which occurred approximately 56 million years ago. For reasons that are currently uncertain, massive amounts of carbon entered the ocean and atmosphere, and led to the dissolution of carbonate sediments in all ocean basins. Ocean acidification has been called the "evil twin of global warming" and "the other CO_2 problem".

9 Neptune

Neptune is the eighth and farthest known planet from the Sun in the Solar System. In the Solar System, it is the fourth-largest planet by diameter, the third-most-massive planet, and the densest giant planet. Neptune is 17 times the mass of Earth and is slightly more massive than its near-twin Uranus, which is 15 times the mass of Earth and slightly larger than Neptune. Neptune orbits the Sun once every 164.8 years at an average distance of 30.1

astronomical units (4.5 billion km). It is named after the Roman god of the sea and has the astronomical symbol Ψ, a stylised version of the god Neptune's trident.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What happened to the ocean? What's the relationship between human being's activities and the ocean?
2) What is the impact of human beings' activities on the ocean and how can you prove it?
3) What are the effects of global warming?
4) How can we reduce the damage caused to the ocean?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ A tenth of the world's people live within 100 kilometres (62 miles) of the coast.
2) ________ A quarter of the coral reefs, which are compared to the rainforest of the sea, have been lost.
3) ________ Melting sea ice affects ecosystems and currents, but it does not affect sea levels.
4) ________ The fertilisers and other nutrients discharged into the sea will cause harmful algal bloom.
5) ________ The changes such as ocean acidification, warmer oceans and overfishing, etc. occurring in combination often prove overwhelming.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

abundance	grim	suppress	ascend	demise	bogus	inquest
plump	overweight	slick	tame	enthuse	snappy	scrounge

1) Being even moderately ________ increases your risk of developing high blood pressure.
2) This area of Mexico has an ________ of safe beaches and a pleasing climate.
3) There's a big difference between an amateur video and a ________ Hollywood production.
4) They used extinguishers and pulverised fuel ash from the power station to ________ the fire.
5) Different Asian societies saw youngsters so traumatized by their pets' ________ that they needed counseling.
6) The report faults the government for providing information that was often ________,

ambiguous or slow.

7) We managed to ________ every piece of gear you requested.
8) In particular, it is struggling to find a growth strategy that will ________ disgruntled shareholders.
9) She patted all the seats and ________ all the cushions.
10) The Amazons were believed to have been the first to ________ horses.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Man has changed the landscape and the atmosphere. It would be odd if the seas, which he has for centuries used for food, for transport, for dumping rubbish and, more recently, for recreation, had not also been affected.
2) As temperatures rise, the algae leave or are evicted, the corals take on a bleached, white appearance and may then meet their demise.
3) The burning over the past 100 years or so of fossil fuels that took half a billion years to form has suddenly, in geological terms, put an enormous amount of carbon dioxide into the atmosphere.
4) The few coral reefs that remain pristine seem able to cope with the warming and acidification that none can escape, but most of the reefs that have also suffered overfishing or pollution have succumbed to bleaching or even death.
5) It is clear, in any event, that man must change his ways. Humans could afford to treat the sea as an infinite resource when they were relatively few in number, capable of only rather inefficient exploitation of the vasty deep and without as yet a taste for fossil fuels.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

lout	havoc	habitat	malpractice	eddy
wreak	legacy	devalue	deadlock	abysmal

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

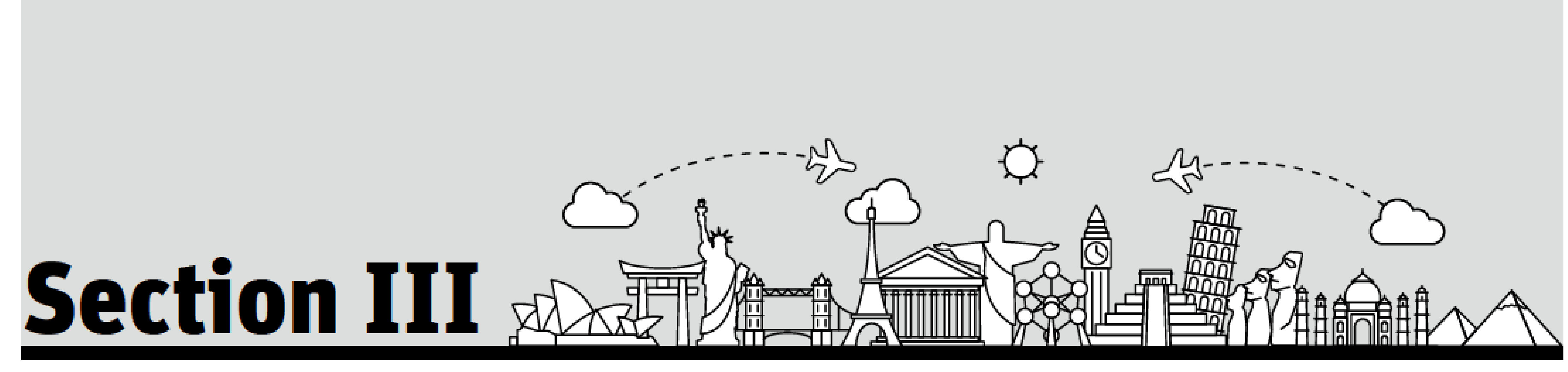
1) ancestor	a. to interfere with or try to change something when someone has no right to do so
2) adrift	b. an important official who lives in a foreign country and represents his or her own country's interests there
3) famine	c. an unusual and unnecessary feature or action whose purpose is to attract attention or publicity
4) heady	d. a situation in which large numbers of people have little or no food, and many of them die
5) tamper	e. a mild cathartic which helps to stimulate evacuation of feces
6) ambassador	f. a smooth thick substance that is put on sore skin or a wound to help it heal
7) centenary	g. a special hospital for people who are dying, where their practical and

emotional needs are dealt with as well as their medical needs

8) laxative	h. a person who is elected to make sure that the law is obeyed in a particular county
9) pornography	i. extremely exciting as if by alcohol or a narcotic
10) cutlery	j. books, magazines, and movies that are designed to cause sexual excitement by showing naked people or referring to sexual acts
11) optician	k. someone whose job is to make and sell glasses and contact lenses
12) ointment	l. someone from whom you are descended (but usually more remote than a grandparent)
13) hospice	m. the 100th anniversary (or the celebration of it)
14) sheriff	n. afloat on the surface of a body of water
15) gimmick	o. tableware implements for cutting and eating food

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. squirrel	B. hedgehog	C. kangaroo	D. alligator
2)	( )	A. anaemia	B. catarrh	C. fillet	D. sclerosis
3)	( )	A. anarchy	B. apricot	C. saffron	D. mauve
4)	( )	A. waistcoat	B. cadet	C. cardigan	D. sweatshirt
5)	( )	A. lotus	B. alder	C. tulip	D. azalea



Text B: Why Our Brains Love the Ocean

Part 1 Power of Words

Core Words

① **sturdy** ['stɜːdɪ] ***adj.***

Someone or something that is sturdy looks strong and is unlikely to be easily injured or damaged.

synonym	well-made; robust; durable; strong; tough
antonym	rickety; frail; feeble
word family	sturdily; sturdiness
related phrase	a sturdy young man; sturdy legs

Example 1 She was a short, sturdy woman in her early sixties.

Example 2 That chair doesn't look very sturdy.

② **realm** [relm] ***n.***

You can use realm to refer to any area of activity, interest, or thought.

synonym	domain; territory; kingdom; province; world; universe; extent
related phrase	enter the realm; political realm; in the realm of; within the realms of possibility

Example 1 His idea belongs in the realm of science fiction.

Example 2 I suppose it's not beyond the realms of possibility.

③ **encompass** [ɪn'kʌmpəs] ***vt.*** **(encompassed/encompassed/encompassing)**

If something encompasses particular things, it includes them.

synonym	involve; contain; include; cover; incorporate
antonym	exclude
word family	encompassing; encompassment

Example 1 The study encompasses the social, political, and economic aspects of the situation.

Example 2 His work encompasses the entire range of the world's religious beliefs.

④ **predicament** [prɪ'dɪkəmənt] ***n.***

If you are in a predicament, you are in an unpleasant situation that is difficult to get out of.

synonym	difficulty; dilemma; quandary; mess
related phrase	in a predicament; same/serious predicament

Example 1 She went to the office to explain her predicament.

Example 2 Other married couples are in a similar predicament.

⑤ **waterproof** ['wɔːtəpruːf] ***adj.***

Something that is waterproof does not let water pass through it.

synonym	water-resistant; rainproof; watertight; impermeable
antonym	permeable
word family	waterproofing; soundproof; shockproof; sunproof
related phrase	waterproof paint/concrete/membrane

Example 1 Take waterproof clothing—Oregon weather is unpredictable.

Example 2 Waterproof flashlight comes in handy at this point.

⑥ **comprehend** [ˌkɒmprɪ'hend] ***vt.*** **(comprehended/comprehended/comprehending)**

If you cannot comprehend something, you cannot understand it.

synonym	understand; know; realize; grasp; get
word family	comprehension; comprehensive; comprehensible; incomprehensible
related phrase	comprehend what/how/why; comprehend that

Example 1 I just cannot comprehend your attitude.

Example 2 She cannot comprehend the extent of the disaster.

⑦ **quest** [kwest] ***n.***

A quest is a long and difficult search for something.

synonym	expedition; pursuit; search; hunt
related phrase	undertake/follow/abandon quest; quest for; in quest of

Example 1 My quest for a better bank continues.

Example 2 World leaders are now united in their quest for peace.

⑧ **concerted** [kən'sɜːtɪd] ***adj.***

A concerted action is done by several people or groups working together.

synonym	concentrated; intensive
antonym	weak; solitary
word family	concertedly; concert
related phrase	concerted effort/action/attack

Example 1 Martin Parry, author of the report, says it's time for concerted action by world leaders.

Example 2 Libraries have made a concerted effort to attract young people.

⑨ **exile** ['eksaɪl] ***vt.*** **(exiled/exiled/exiling)**

If you say that someone has been exiled from a particular place or situation, you mean that they have been sent away from it or removed from it against their will.

synonym	banish; send away; deport; expel; cast out
word family	exiled; exiler
related phrase	exile from; exile to

Example 1 He served less than a year of a five-year prison sentence, but was permanently exiled from the sport.

Example 2 Larry was exiled to a distant land.

⑩ **convene** [kən'viːn] ***vi./vt.*** **(convened/convened/convening)**

If someone convenes a meeting or conference, they arrange for it to take place; You can also say that people convene or that a meeting convenes.

synonym	call together; assemble; summon; set up; organize
antonym	disband
word family	convener; convention; conventional
related phrase	convene meeting/conference/session/summit

Example 1 Last August he convened a meeting of his closest advisers at Camp David.

Example 2 Congress will convene again in the fall.

⑪ **roam** [rəʊm] ***vi./vt.*** **(roamed/roamed/roaming)**

If you roam an area or roam around it, you wander or travel around it without having a particular purpose.

synonym	wander; rove; travel; journey; stray
antonym	settle
word family	roamer
related phrase	roam about/around; roaming service

Example 1 Barefoot children roamed the streets.

Example 2 I spent a couple of years roaming around the countryside.

⑫ **uplift** [(for *n.*) 'ʌplɪft; (for *v.*) ʌp'lɪft] ***n./vt.*** **(uplifted/uplifted/uplifting)**

an increase in something; a feeling of happiness and hope; to make someone feel happier; to make something higher

synonym	lift; elevate; raise; hoist; inspire
antonym	drop; depress
word family	uplifting; uplifted
related phrase	uplift pressure

Example 1 This victory was a massive uplift for us.

Example 2 There has been an intermittent uplift of the land and subsidence of the sea going on.

⑬ **be apt to**

If someone is apt to do something, they often do it and so it is likely that they will do it again.

synonym	be prone to; be liable to; be subject to

Example 1 She was apt to raise her voice and wave her hands about.

Example 2 Some of the staff are apt to arrive late on Mondays.

⑭ **spouse** [spaʊz] ***n.***

Someone's spouse is the person they are married to.

synonym	mateship; sexual partner; wife; husband; partner
word family	spousal
related phrase	surviving spouse; spouse abuse

Example 1 You, or your spouse, must be at least 60 to participate.

Example 2 You and your spouse both have to sign this contract.

⑮ **soothe** [suːð] ***vt.*** **(soothed/soothed/soothing)**

to make someone feel calmer and less anxious, upset, or angry

synonym	calm; pacify; quieten; quiet; mollify
antonym	excite; aggravate
word family	soothing; soothingly
related phrase	soothe throat/pain

Example 1 Lucy soothed the baby by rocking it in her arms.

Example 2 She made a cup of tea to soothe her nerves.

⑯ **thesis** ['θiːsɪs] ***n.*** **(*pl.* theses)**

A thesis is a long piece of writing based on your own ideas and research that you do as part of a college degree, especially a higher degree such as a Ph.D..

synonym	dissertation; paper; essay; composition; treatise
related phrase	write/present thesis; graduate/master's/doctoral thesis; thesis on sth.; thesis defence; thesis proposal; thesis writing

Example 1 Cynthia's still working on her thesis.

Example 2 He wrote his doctoral thesis on contemporary French literature.

⑰ **quantify** ['kwɒntɪfaɪ] ***vt./vi.*** **(quantified/quantified/quantifying)**

If you try to quantify something, you try to calculate how much of it there is.

synonym	calculate; count; enumerate; measure; compute
word family	quantifiable; quantitative; quantitatively; quantity; quantification; quantifier
related phrase	difficult/impossible to quantify

Example 1 It is difficult to quantify an exact figure as firms are reluctant to declare their losses.

Example 2 The damage caused to the tourist industry is difficult to quantify.

⑱ **at the forefront of**

to be in a leading position in an important activity that is trying to achieve something or develop new ideas

Example 1 The company has always been at the forefront of science and technology.

Example 2 It's great to see a large technology company like IBM at the forefront of this trend.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

abundant	aesthetic	ashore	athlete
cleanse	comfy	embed	excel
hub	intersect	lap	livelihood
magnitude	mainstream	metaphor	navigate
nigh	optic	prevalent	rational
reflex	solvent	stimulus	sway
thereby	torment	vacation	womb
workplace			

Part 2 Text

Why Our Brains Love the Ocean

Since time immemorial, humans have been captivated by water. And the reasons go beyond evolution.

I'm standing on a pier at the Outer Banks[1] of North Carolina, fifty feet above the Atlantic. To the left and right, forward, back, and below, all I can see is ocean. I'm wearing a light blue hat that looks like a bejeweled swim cap, and a heavy black cable snakes down my back like a ponytail. Even though I look like an extra from an Esther Williams[2] movie who wandered into Woody Allen's *Sleeper*[3] by mistake, in truth I'm a human lab rat, here to measure my brain's response to the ocean.

The cap is the nerve hub of a mobile electroencephalogram (EEG) unit, invented by Dr. Stephen Sands, who excels at biomedical science and is a chief science officer of Sands Research[4]. Steve's a big, and sturdy guy. He uses brain imaging to research Alzheimer's disease. In 1998 he established Neuroscan, which became the largest supplier of EEG equipment and software for use in neurological research. In 2008 Steve founded Sands Research, a company that does neuromarketing, a new realm using behavioral and neurophysiological data to track the brain's response to advertising. "People's responses to any kind of stimulus, including advertising, encompass conscious activity and subconscious activity," he once wrote. "But the subconscious responses can't be tracked through traditional market research methods." When groups of neurons are activated in the brain by any kind of stimulus, a small electrical charge is generated, which indicates that neurological functions such as memory, attention, language processing, and emotion

are taking place in the cortex. By scrutinizing where those electrical charges occur in the brain, the EEG machine can measure everything from overall engagement to cognition, attention, the level of optic or auditory stimulation, whether the subject's motor skills are involved, and how well the recognition and memory circuits are being stimulated.

Given current predicament about the value of promotional efforts, Steve's data are increasingly sought after. Sands Research does advertising impact studies for some of the largest corporations in the world; it's perhaps best known for an "Annual Super Bowl Ad Neuro Ranking", which evaluates viewers' neurological reflexes to those $3.8-million-per-thirty-second spots.

In the months prior to my trip to the Outer Banks, I'd been contacted by Sands Research's director of business development, Brett Fitzgerald. Brett had heard about my work combining water science with neuroscience and contacted me to see if we could do some sort of project together. Today Brett has fitted me with a version of the Sands Research EEG scanning apparatus that can detect human brain activity with high level of precision. The data from the electrodes in this ornamented swim cap are sampled 256 times per second and, when amplified for analysis, will allow neuroscientists to see in real time which areas of the brain are being stimulated. The sixty-eight electrodes plugged into the cap on my head measures my every neurological up and down as I plunge into the ocean. It's the first time equipment like this has been considered for use at (or in) the water, and I'm a little anxious about both the current incompatibility between the technology and the ocean, but also about what we might learn. So is Brett—the cap and accompanying scanning device aren't cheap. In the future such a kit will be made waterproof and used underwater.

It's only recently that technology has empowered us to delve into the depths of the human brain and into the depths of the ocean. With advancements our ability to study and comprehend the human mind has expanded to include a magnitude of new ideas about perception, emotions, empathy, creativity, health, and our relationship with water. Several years ago I came up with a name for this human–water connection: Blue Mind, a mildly meditative state characterized by calm, peacefulness, unity, and a sense of happiness and satisfaction with life. It takes advantage of neurological connections formed over millennia, many such brain patterns and preferences being discovered only now, thanks to innovative scientists and cutting-edge technology.

In recent years, the notion of "mindfulness" has edged closer to the mainstream. What was once thought of as a fringe quest for Eastern vacancy has now been recognized as having sizeable benefits. Today the search for the focus and awareness that characterizes Blue Mind extends from the classroom to the boardroom to the battlefield, from the doctor's office to the concert hall to the world's shorelines. The stress produced in our overwhelmed lives makes that search more urgent.

Water's amazing influence does not mean that it displaces other concerted efforts to reach a mindful state; rather, it adds to, enhances, and expands. To use a water-based metaphor, it offers you a compass, a craft, some sails, and a wind chart. In an age when we're tormented by stress, technology, exile from the natural world, professional suffocation, personal anxiety, and at a loss for true privacy, casting off is comfy.

To properly navigate these depths, I've convened an eclectic group of eminent scientists, psychologists, educators, athletes, businesspeople, and artists to consider a fundamental question: what happens when our most complex organ—the brain—meets water?

As a marine biologist familiar with the water, I believe that oceans, lakes, rivers, pools, even

fountains can irresistibly sway our minds. And there are logical explanations for our tendency to go to the water's edge for some of the most significant moments of our lives.

Our (Evolving) Relationship to Water

Water draws and fascinates us. No wonder: it's the most omnipresent substance on Earth and, the primary ingredient for supporting life. Ocean plankton provides more than half of our planet's oxygen. There are approximately 332.5 million cubic miles of water on Earth—96 percent of it saline. Water covers more than 70 percent of Earth's surface; 95 percent of those waters have yet to be explored.

Water is the sine qua non of life and seems to be all over the universe. While it may not be the only solvent for life, it certainly makes a great one since it is abundant, it's liquid over a broad temperature range, it floats when solid, allowing for ice-covered lakes, and it's what we use here on Earth.

Whether searching the universe or roaming here at home humans have always sought to be by or nigh water. It's estimated that 80 percent of the world's population lives within sixty miles of the coastline of an ocean, lake, or river. Over half a billion people owe their livelihoods directly to water, and two-thirds of the global economy is derived from water-related activities. Approximately a billion people worldwide rely primarily on water-based sources for protein. We use water for drinking, cleansing, working, recreating, and traveling.

Our innate relationship to water goes far deeper than economics, food, or proximity, however. Our ancient ancestors came out of the water and evolved from swimming to crawling to walking. Human fetuses still have "gill-slit" structures in their early stages of development, and we spend our first nine months of life in the "watery" environment of our mother's womb. The human body as a whole is almost the same density as water. In its mineral composition, the water in our cells is comparable to that found in the sea.

We are inspired by water—hearing it, smelling it in the air, playing in it, walking next to it, writing about it, and creating lasting memories. Indeed, throughout history, our deep connection to water is described in art and literature. Water can give us energy, whether it's hydraulic, the tonic effect of cold water splashed on the face, or the mental uplift that comes from the gentle, rhythmic sensation of hearing waves lapping a shore. Immersion in warm water has been used for millennia to restore the body as well as the mind. Water drives many of our decisions—from the seafood we eat, to our most romantic moments, and from where we live, to the ways we vacation and relax.

Humans have "embedded" in genes an instinctive bond with nature. Since we have spent most of our evolutionary history—three million years—in nature, we have an innate love of natural settings. This preference for nature has a profound aesthetic impact. The late Denis Dutton, a philosopher who focused on the intersecting of art and evolution, believed that what we consider "beautiful" is a result of our ingrained linkage to the kind of natural landscape that ensured our survival. During a 2010 TED talk, Dutton described findings based on both evolutionary psychology and a 1997 survey of contemporary preference in art. When people were asked to describe a "beautiful" landscape, he observed, the elements were universally the same: open spaces, covered with low grass, interspersed with trees. And if you add water to the scene—either directly in view, or as a distant bluish cast that the eye takes as an indication of water—the desirability of that landscape skyrockets. Dutton theorized that this "universal landscape" contains all the elements

needed for human survival: grasses and trees for food; the ability to see approaching danger before it arrives; trees to climb if you need to escape predators; and the presence of an accessible source of water nearby.

The presence of water is a great source of happiness. From ancient times onward, philosophers have argued about the causes and uses of happiness, and composers, writers, and poets have filled our heads with stories of happiness lost and found. Happiness is the inspiration of life. People who are emotionally happier are apt to be healthy, productive, and socially connected. These benefits in turn flow more broadly to their families, workplaces, and communities, to the advantage of all.

As a result, we are bombarded with books on happiness, and studies about happiness. Greater individual happiness has been shown to make our relationships better; help us be more creative, productive, and effective at work (thereby bringing us higher incomes); give us greater self-control and ability to cope; make us more charitable, cooperative, and empathetic; boost our immune and cardiovascular systems; slow disease progression, and increase longevity. Research shows that happy people make better decisions, take better care of themselves, and are better friends, colleagues, neighbors, spouses, parents, and citizens.

Water and Our Emotions

Beyond our evolutionary linkage to water, humans have deep emotional ties to being in its presence. Water delights us and inspires us. It soothes us and intimidates us (Vincent van Gogh: "The fishermen know that the sea is dangerous and the storm terrible, but they have never found these dangers sufficient reason for remaining ashore"). It creates feelings of awe, peace, and joy. But in almost all cases, when humans think of water, they feel something. These "instinctual and emotional responses occur separately from rational and cognitive responses," wrote Steven C. Bourassa, a professor of urban planning, in a seminal 1990 article in Environment and Behavior.

This makes sense to me, as I've always been drawn to the stories and science of why we love the water. However, as a doctoral student studying evolutionary biology, wildlife ecology, and environmental economics, when I tried to weave emotion into my thesis on the relationship between sea turtle ecology and coastal communities, I learned that academia had little room for feelings of any kind. "Keep that fuzzy stuff out of your science, young man," my advisors counseled. Emotion wasn't rational. It couldn't be quantified. It wasn't science.

Talk about a "sea change": today cognitive neuroscientists have begun to understand how our emotions drive virtually every decision we make. Today we are at the forefront of a wave of neuroscience that seeks to discover the biological bases of everything, from our political choices to our color preferences. And a few of them are now starting to examine the brain processes that underlie our connection to water. The study of our love for water has significant, real-world applications—for health, travel, real estate, creativity, childhood development, urban planning, the treatment of addiction and trauma, conservation, business, politics, religion, architecture, and more. Most of all, it can lead to a deeper understanding of how our minds and emotions are shaped by our interaction with the most prevalent substance on our planet.

(Adapted from "Why Our Brains Love the Ocean", http://www.salon.com/2014/07/19/why_our_brains_love_the_ocean_science_explains_what_draws_humans_to_the_sea/, written by Wallace J. Nichols)

Notes

① the Outer Banks

The Outer Banks (OBX) is a 200-mile-long (320 km) string of barrier islands and spits off the coast of North Carolina and southeastern Virginia, on the east coast of the United States. They cover most of the North Carolina coastline, separating the Currituck Sound, Albemarle Sound, and Pamlico Sound from the Atlantic Ocean. The Outer Banks is a major tourist destination and is known around the world for its subtropical climate and wide expanse of open beachfront. The Cape Hatteras National Seashore has four campgrounds open to visitors. The treacherous seas off the Outer Banks and the large number of shipwrecks that have occurred there have given these seas the nickname Graveyard of the Atlantic. The Graveyard of the Atlantic Museum is located in Hatteras Village near a United States Coast Guard facility and the Hatteras ferry.

② Esther Williams

Esther Jane Williams was an American competitive swimmer and actress. Williams set multiple national and regional swimming records in her late teens as part of the Los Angeles Athletic Club swim team. Unable to compete in the 1940 Summer Olympics because of the outbreak of World War II, she joined Billy Rose's Aquacade, where she took on the role vacated by Eleanor Holm after the show's move from New York City to San Francisco. While in the city, she spent five months swimming alongside Olympic gold medal winner and Tarzan star, Johnny Weissmuller. Williams caught the attention of MGM scouts at the Aquacade. After appearing in several small roles, alongside Mickey Rooney in an Andy Hardy film, and future five-time co-star Van Johnson in *A Guy Named Joe*, Williams made a series of films in the 1940s and early 1950s known as "aquamusicals", which featured elaborate performances with synchronized swimming and diving.

③ Woody Allen's *Sleeper*

Sleeper is a 1973 American futuristic science fiction comedy film, directed by Woody Allen and written by Allen and Marshall Brickman. The plot involves the adventures of the owner of a health food store who is cryogenically frozen in 1973 and defrosted 200 years later in an ineptly led police state. The film contains many elements which parody notable works of science fiction and was made as a tribute to comedians Groucho Marx and Bob Hope.

④ Sands Research

Launched in 2008, Sands Research Inc. (SRI) is a continuation to the successful track record of co-founders Dr. Stephen Sands and Mr. Ron Wright. Their first company, Neuroscan Inc., was the largest supplier of EEG equipment and software to the neurological research market, with over 2,500 laboratories utilizing their products worldwide. After the sale of Neuroscan, Dr. Sands and his team initiated years of research and development into the brain's response in applied settings. SRI has recorded response to TV commercials, TV broadcast, movie trailers, packaged goods, in store shopping, point of sale, automotive clinics, print, web, gaming, fragrances, taste, touch, and even responses to different shoes while running.

The result is SRI's patent pending software (Neuromedia™) that analyzes and scores media by a target subject group's engagement and emotions (The Sands Research Neuro Engagement

Score™ NES and Emotional Valence Score™ EVS, respectively).

SRI manufactures neurophysiological equipment to include, caps, gel, amplifiers designed for research EEG and event-related potentials. The equipment is fMRI, MEG, and TMS compatible and is sold to leading universities and national research institutes around the world.

Sands Research Inc. is also recognized as one of the leading providers and innovators in the growing field of neuromarketing services. The company has offices, labs, and partners around the world and offers a unique service to its clients and to the advertising community.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) How much do you know about the ocean? Please introduce some facts about the ocean.
2) Human beings have long been emotionally attached to the oceans. Could you explain this?
3) How can the knowledge of science and technology better serve the exploitation and protection of the ocean?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The author is standing on a pier at the Outer Banks for enjoying the beautiful scenery.
2) ________ Stephen Sands founded Sands Research that does neuromarketing to track human brain's response to advertising.
3) ________ Advancement in technology contributes greatly to our study and comprehension of the human mind in various aspects.
4) ________ The profound relationship between human beings and water is established simply due to economic and materialistic needs.
5) ________ The example of Vincent van Gogh proves that we are terrified by the water and are willing to be far away from it.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

realm	encompass	magnitude	quest	convene
blush	evacuee	niggle	moored	potion
whine	carbohydrate	festive	dos	apiece

1) In western countries, Christmas is a ________ time, especially for children.
2) ________ by the thousands poured into a school at night during the storm.
3) The subject of social studies ________ history, civics, and geography.
4) The workers were ________ that the office was too cold and humid in winter.
5) He's always ________ over small details and gets tired for that.
6) When you figure that they usually sell for six dollars ________, you're getting quite a bargain.
7) The hero in the movie is given a magic ________ so that he will fall in love with the princess.
8) The team's ________ to win a championship finally came to an end as they lost the competition.
9) When you ________, your face becomes redder than usual because you are ashamed or embarrassed.
10) Food like potatoes, bread and pasta are high in ________ and low in fat.
11) Where do I find the instructions to load ________ programs from Windows 98?
12) A shallow ________ 2.7 earthquake was reported Thursday evening one mile from Santa Clarita, according to the U.S. Geological Survey.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) It's only recently that technology has empowered us to delve into the depths of the human brain and into the depths of the ocean.
2) In an age when we're tormented by stress, technology, exile from the natural world, professional suffocation, personal anxiety, and at a loss for true privacy, casting off is comfy.
3) Our innate relationship to water goes far deeper than economics, food, or proximity, however.
4) ... when I tried to weave emotion into my thesis on the relationship between sea turtle ecology and coastal communities, I learned that academia had little room for feelings of any kind.
5) Today we are at the forefront of a wave of neuroscience that seeks to discover the biological bases of everything, from our political choices to our color preferences.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

bollard	Suss	cavalier	Alps	decrepit
convent	ligament	prong	touchy	twit

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) barb	a. arranged with spaces between
2) bleep	b. a heavy aerial bombardment
3) leaded	c. submission of an issue of public importance to the direct vote of the electorate
4) catchment	d. a fancy or whim
5) savoury	e. relating to, used in, or appropriate for courts of law or for public discussion or argumentation

6) forensic f. the dead body of an animal, especially one slaughtered for food
7) temperament g. a point or pointed part projecting backward from a main point, as of a fishhook or arrowhead
8) blitz h. attractive to the sense of taste or smell
9) complacent i. a prostitute
10) maggot j. (Electronics) to make such a noise
11) carcass k. not fully grown or developed; young
12) hooker l. an individual's character, disposition, and tendencies as revealed in his reactions
13) juvenile m. a structure such as a basin or reservoir, used for collecting or draining water
14) referendum n. to inoculate with a vaccine
15) vaccinate o. pleased or satisfied, especially extremely self-satisfied

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

flannel	jade	tint	cloak	nightie	willow	raspberry
olive	almond	peach	drab	overcoat	robe	bronze
dun	sweater	garment	frock	lavender	corset	mackintosh

Group A: overcoat

____

____

Group B: bronze

____

____

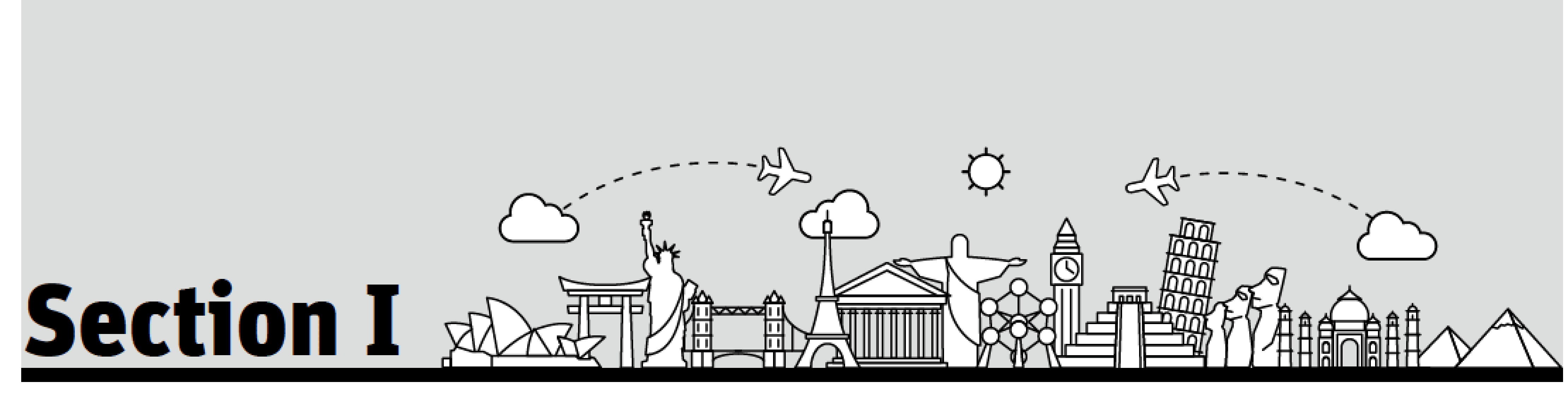
Group C: willow

____

____



Unit 4
Universe



Section I

Focus on Topics and Topic Sentences

You may have had the following reading experience. Sometimes when you read a paragraph, the meaning will seem to jump out at you. This is especially true if you are familiar with the subject matter and have acquired the appropriate background knowledge. At other times, however, the topic will be so unfamiliar or the writer's style so complicated that you'll have to make more effort to understand the reading material. To help you with those more difficult texts, this part offers a step-by-step strategy for getting to the author's meaning.

Determining the Topic

To make sense of paragraphs, particularly difficult ones, you first need to determine the topic, or the subject under discussion. To find the topic of a paragraph, ask yourself this question: "Which person, event, practice, or idea is most frequently mentioned or referred to in the paragraph?" Since paragraphs usually mention several people, places, and events, you need a strategy for figuring out which one of these is actually the paragraph's topic.

The strategy recommended here is as follows: Look for the word or phrase most frequently repeated or referred to throughout the paragraph. Once you identify the word or words receiving the most repetition and reference throughout, you will know the paragraph topic.

Phrasing the Topic

Occasionally, the topic of a paragraph can be expressed in a single word. However, readers will usually need a longer phrase to sum up the precise topic, that is, the one that leads readers most directly to the author's main idea, or key point. But how can you know when a phrase rather than a single word is necessary to summarize the topic? Here's the answer: If the topic needs to be expressed in a phrase, the paragraph will contain more than one chain of repetition and reference.

From the Topic to the Main Idea

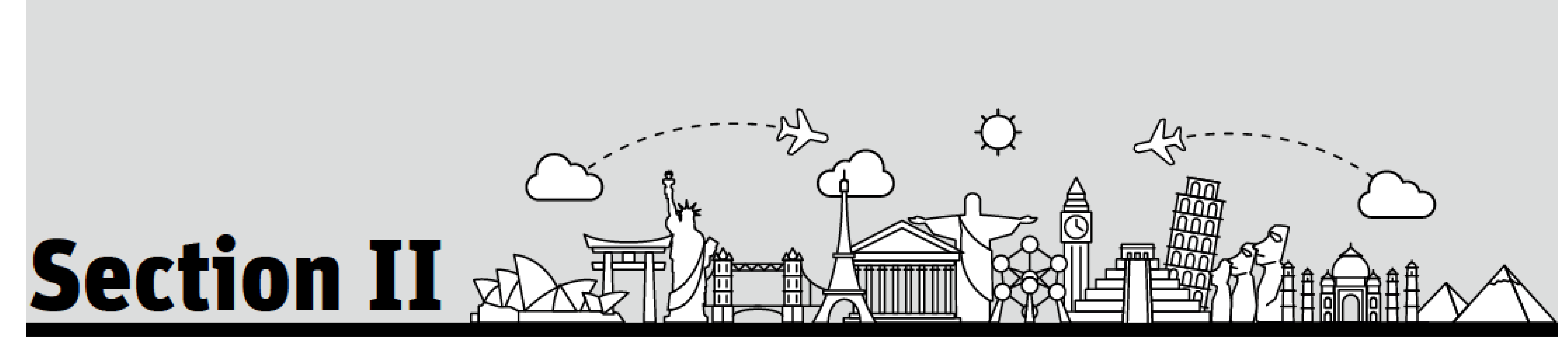
Once you know the topic of a paragraph, the next logical step you will most possibly take is to determine the main idea. The main idea is the key point or central message of the paragraph. It's the author's comment on or statement about the topic. It's what unites, or ties together, all the sentences in the paragraph. Most paragraphs lacking a main idea end up being little more than collections of unrelated thoughts. The one exception to that rule would be scientific description paragraphs, which are meant to give readers the key characteristics of a theory, a thing, or an event. But for the most part, paragraphs, even in science textbooks, will revolve around one key thought or main idea. To discover the main idea of a paragraph, you need to ask two questions: 1) What does the author want to say about the topic? 2) Which idea is developed sentence by sentence throughout the paragraph?

Topic Sentences and Main Ideas

Topic sentences are general sentences that broadly state the point of the paragraph. Although you may find discussions of reading comprehension suggesting that the main idea always appears in the first sentence, it is not always the case. While textbook authors frequently make the first sentence the topic sentence, they often delay the introduction of the main idea in order to provide the background or stimulate readers' interest, sometimes until the very end of the passage. When you analyze the topic sentences in the paragraph, note how introductory sentences team up with reversal transitions. Reversal transitions are words and phrases like however, yet, and in contrast, plus sentences like "That's not how events unfolded". Whether a word, phrase, or sentence, reversal transitions serve the same function: They tell readers that the author is about to revise, challenge, or contradict what's just been said. Not surprisingly, reversal transitions frequently follow introductory sentences. So try to be on the lookout for the reversal transitions when you are reading. The followings are some reversal transitions: actually, nonetheless, but, on the contrary, contrary to, on the other hand, conversely, despite the fact, however, in contrast, yet, yet in fact, ironically, etc..

Concentrating on Paraphrasing Topic Sentences

To paraphrase a topic sentence, you will need to establish the topic or subject of the sentence first, then create the author's comment on it. Paraphrasing those core elements—the topic and a comment about the topic—would result in a reworded sentence. Reducing a topic sentence to its core elements is a good way of starting a paraphrase. Once you have those two elements you can figure out how to reword the other parts of the sentences that expand or refine the sentence's core meaning.



Section II

Text A: Does Time Run Backward in Other Universes?

Part 1 Power of Words

Core Words

① **disqualify** [dɪs'kwɒlɪfaɪ] ***vt.*** **(disqualified/disqualified/disqualifying)**

When someone is disqualified, they are officially stopped from taking part in a particular event, activity, or competition, usually because they have done something wrong.

synonym	exclude; ban; bar; debar; prohibit
antonym	qualify; allow
word family	qualified; qualification; disqualification
related phrase	disqualify sb. from (doing) sth.

Example 1 Thomson was disqualified from the 400-metre freestyle.

Example 2 He was disqualified from driving.

② **bolster** ['bəulstə] ***vt.*** **(bolstered/bolstered/bolstering)**

If someone tries to bolster their position in a situation, they try to strengthen it.

synonym	boost; strengthen; reinforce; encourage; shore up
antonym	undermine
word family	bolstered; bolstering
related phrase	bolster confidence/dollar; bolster up

Example 1 The country is free to adopt policies to bolster its economy.

Example 2 He is making a bold attempt to bolster the territory's confidence.

③ **turmoil** ['tɜːmɔɪl] ***n.***

Turmoil is a state of confusion, disorder, uncertainty, or great anxiety.

synonym	combustion; disorder; chaos; confusion; uproar; mayhem
antonym	order
related phrase	political/emotional/economic/religious/financial turmoil; in turmoil

Example 1 She lived through the turmoil of the French Revolution.

Example 2 Ashley gazed at him, her thoughts in turmoil.

④ **singular** ['sɪŋgjələ] ***adj.***

The singular form of a word is the form that is used when referring to one person or thing; very

great or very noticeable

antonym	plural
word family	singularly; singularity; singleness; singularize

Example 1 In "The boy runs", boy is a singular noun and runs agrees with it in number.

Example 2 Our rule is singular and simple: No animals, please.

5 **influx** ['ɪnflʌks] ***n.*** **(*pl.* influxes)**

An influx of people or things into a place is their arrival there in large numbers.

synonym	arrival; invasion; incursion; flood; entry
antonym	outflow
related phrase	influx rate; influx of sb./sth. into

Example 1 These problems were caused by the influx of refugees.

Example 2 In contrast, owners of watch stores in Europe are welcoming the influx of Chinese tourists at a time of falling domestic consumption.

6 **overflow** [ˌəʊvə'fləʊ] ***vi.*** **(overflowed/overflowed/overflowing)**

If a liquid or a river overflows, it flows over the edges of the container or place it is in; If a place or container is overflowing with people or things, it is too full of them.

synonym	spill over; flow over; run over; flood; brim over; pour out
antonym	lack
word family	overflowing
related phrase	overflow with

Example 1 Pour in some of the broth, but not all of it, because it will probably overflow.

Example 2 Schreiber addressed an auditorium overflowing with journalists.

7 **pitfall** ['pɪtfɔːl] ***n.***

a problem or difficulty that is likely to happen in a particular job, course of action, or activity

synonym	deficiency; defect; trap; drawback; snare; snag; danger; downside
antonym	advantage

Example 1 He gave me advice on how to avoid the pitfalls of the legal process.

Example 2 The pitfalls of working abroad are numerous.

8 **constrict** [kən'strɪkt] ***vt.*** **(constricted/constricted/constricting)**

If a part of your body, especially your throat, is constricted, something causes it to become narrower.

synonym	compress; tighten; narrow; contract; squeeze
antonym	loosen; extend
word family	constricted; constriction; constrictive; constrictor

Example 1 Severe migraines can be treated with a drug that constricts the blood vessels.

Example 2 Linda's throat was constricted and she started to cry.

⑨ **circumstantial** [ˌsɜːkəm'stænʃl] ***adj.***

Circumstantial evidence is evidence that makes it seem likely that something happened, but does not prove it.

synonym contingent; indirect; inferred; conditional
word family circumstantially; circumstance; circumstantiate
related phrase circumstantial evidence/case

Example 1 Fast work by the police had started producing circumstantial evidence.

Example 2 The case against McCarthy is based largely on circumstantial evidence.

⑩ **blur** [blɜː] ***vi./vt.*** **(blurred /blurred/blurring)**

If something blurs an idea or a distinction between things, that idea or distinction no longer seems clear.

synonym cloud; distort; muddle; obscure; mist
antonym clarify; clear
word family blurred; blurry; blurriness

Example 1 His films blur the boundaries between the fact and fiction.

Example 2 She believes that scientists are trying to blur the distinction between "how" and "why" questions.

⑪ **reallocate** [ˌriː'æləkeɪt] ***vt.*** **(reallocated/reallocated/reallocating)**

When organizations reallocate money or resources, they decide to change the way they spend the money or use the resources.

synonym redistribute; reshuffle; reorganize
word family reallocation
related phrase reallocate sth. (to sb./sth.)

Example 1 The cost-cutting programme is intended to reallocate people and resources within the company.

Example 2 There has been some progress in reforms that would reallocate power from wealthy countries to fast-growing emerging nations.

⑫ **concur** [kən'kɜː] ***vi.*** **(concurred/concurred/concurring)**

If one person concurs with another person, the two people agree; You can also say that two people concur.

synonym agree; harmonize; correspond; coincide; see eye to eye
antonym conflict; resist; diverge
word family concurrent; concurring; concurrently; concurrence
related phrase concur with; concur in

Example 1 Local feeling does not necessarily concur with the press.

Example 2 Daniels and Franklin concurred in an investigator's suggestion that the police be commended.

⑬ **outspoken** [aʊt'spəʊkən] ***adj.***

Someone who is outspoken gives their opinions about things openly and honestly, even if they are likely to shock or offend people.

synonym honest; transparent; open; frank; opinionated; candid
antonym tactful
word family outspokenly; outspokenness

Example 1 Some church leaders have been outspoken in their support for political reform in Kenya.

Example 2 We should listen closely to the outspoken criticisms.

⑭ **vain** [veɪn] ***adj.***

A vain attempt or action is one that fails to achieve what was intended.

word family vainglorious; vainly; vainglory
related phrase in vain; vain attempt/hope

Example 1 The drafting committee worked through the night in a vain attempt to finish on schedule.

Example 2 He stopped at the door, waiting in vain for her to acknowledge his presence.

⑮ **expanse** [ɪk'spæns] ***n.***

An expanse of something, usually sea, sky, or land, is a very large amount of it.

synonym area; breadth; span; stretch; spread; openness; broadness
word family expanded; expansive; expandable; expansionist; expansible; expansively; expansion; expansiveness; expansionism; expansivity
related phrase vast/wide/large, etc. expanse

Example 1 There is nothing quite like experiencing the wide expanse of the ocean and the endless acres of sand on a Friday morning with my son to remind me how much I have to be grateful for.

Example 2 Across an expanse of the Potomac floodplain, airplanes were landing at National Airport.

⑯ **reiterate** [riː'ɪtəreɪt] ***vt.*** **(reiterated/reiterated/reiterating)**

If you reiterate something, you say it again, usually in order to emphasize it.

synonym ingeminate; restate; repeat; go over; recap; retell
word family reiterative; reiteration
related phrase reiterate demand

Example 1 He reiterated his opposition to the creation of a central bank.

Example 2 He reiterated the importance of good health in his speech.

⑰ **prophecy**['prɒfəsɪ] ***n.***

A prophecy is a statement in which someone says they strongly believe that a particular thing will happen.

synonym	prediction; message; oracle; forewarning; foreshadowing
word family	prophetic; prophetically; prophet; prophetess; prophesy
related phrase	self-fulfilling prophecy

Example 1 Will the teacher's prophecy be fulfilled?

Example 2 The prophecy that David would become King was fulfilled.

⑱ **deception** [dɪ'sepʃn] ***n.***

Deception is the act of deceiving someone or the state of being deceived by someone.

synonym	trick; ruse; sham; fraud
word family	deceive; deceptive; deceptively; deceptiveness
related phrase	deliberate deception

Example 1 He admitted conspiring to obtain property by deception.

Example 2 She didn't have the courage to admit to her deception.

⑲ **shamble** ['ʃæmbl] ***vi.*** **(shambled/shambled/shambling)**

to walk or move along in an awkward or unsteady way

synonym	shuffle; waddle; drag your feet; stagger
antonym	stride
related phrase	shamble out/past/along

Example 1 The old man shambled out of the room muttering to himself.

Example 2 The couductor shambled to the next carriage.

⑳ **conducive** [kən'du:sɪv] ***adj.***

If one thing is conducive to another thing, it makes the other thing likely to happen.

synonym	advantageous; beneficial; encouraging; favorable; useful; profitable
word family	conduce; conduciveness
related phrase	be conducive to sth.

Example 1 Make your bedroom as conducive to sleep as possible.

Example 2 This is conducive not only to their respective development, but also to regional stability and prosperity.

㉑ **superficial** [ˌsu:pə'fɪʃl] ***adj.***

Superficial is used to describe the appearance of something or the impression that it gives, especially if its real nature is very different.

synonym	shallow; trifling; unimportant; surface
antonym	profound; deep; thorough
word family	superficially; superficiality; superficies

related phrase superficial examination/study/knowledge/difference/nature/similarity

Example 1 Despite these superficial resemblances, this is a darker work than her earlier novels.

Example 2 They only have the most superficial understanding of prison life.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

apprehend	bustle	clump	cuppa	diligent
equilibrium	err	facet	hollow	indifferent
inkling	intestine	misguided	recap	unitary
weighty	willful			

Part 2 Text

Does Time Run Backward in Other Universes?

The universe does not look right. That may seem like a strange thing to say, given that cosmologists have very little standard for comparison. How do we know what the universe is supposed to look like? Nevertheless, over the years we have developed a strong intuition for what counts as "natural"—and the universe today is disqualified.

Do not err: cosmologists have put together an incredible picture of what the universe is made of and how it has evolved. Some 14 billion years ago the cosmos was hotter and denser than the intestine of a star. Since then it has been cooling off and thinning out as the space expands. This picture accounts for about every observation we have made, but many unusual features, especially in the early universe, give us an inkling that there is more to the story than we apprehend.

Among the unnatural aspects of the universe, one stands out: time asymmetry. The microscopic laws of physics that underlie the behavior of the universe do not distinguish between Past and Future. Yet the early universe (hot, dense, homogeneous) is completely different from today's universe (cool, dilute, lumpy).

The universe started orderly and has been getting increasingly disorderly ever since. The asymmetry of time, the arrow that points from past to future, plays an unmistakable role in everyday lives. And the origin of the asymmetry can be traced all the way back to the orderliness of the universe near the Big Bang[1].

The "arrow of time"[2] is arguably the most blatant feature of the universe that cosmologists are currently at an utter loss to explain. Increasingly, however, this puzzle about the universe hints at the existence of a much larger space-time we do not observe. It bolsters the notion that we are part of a Multiverse whose dynamics help to explain the seemingly unnatural features of our local vicinity.

The Puzzle of Entropy

Physicists recap the concept of time asymmetry in the celebrated Second Law of Thermodynamics[3]—entropy in a closed system never decreases. Roughly, entropy is a measure of the turmoil of a system.

In the 19th century, Austrian physicist Ludwig Boltzmann explained entropy in terms of the distinction between the microstate of an object and its macrostate. If you were to describe a cuppa, you would most likely refer to its macrostate. The microstate, on the other hand, specifies the precise position and velocity of the singular atom in the liquid.

Entropy is the number of different microstates that correspond to the same macrostate. Thus, there are more ways to arrange given number of atoms into a high-entropy configuration than into low-entropy one. Imagine that you pour milk into your coffee. There are an influx of ways to distribute the molecules so that the mill and coffee are completely mixed together but relatively few ways to arrange them so that the milk is compartmented from the surrounding coffee. From this point of view, it is not surprising that entropy tends to increase with time. High-entropy states greatly outnumber low-entropy ones.

Although it is physically possible for the milk molecules to spontaneously conspire to arrange themselves next to one another, it is statistically very unlikely. If you waited for it to happen of its own accord as molecules randomly reshuffled, you would typically have to wait much longer. The "arrow of time" is simply the tendency of systems to evolve toward one of the numerous, natural, high-entropy states.

But explaining why low-entropy states evolve into high-entropy states is different from explaining why entropy is increasing in our universe. Of all the possible initial conditions that could have evolved into a universe like ours, the overthrowing majority have much higher entropy. In other words, the real pitfall is to explain why the entropy was lower yesterday and even lower the day before that. We can trace this logic all the way back to the beginning of time in our observable universe.

The Disorder of Emptiness

The early universe was a remarkable place. All the particles that make up the universe were constricted into an extraordinarily hot, dense volume. Most importantly, they were distributed nearly uniformly throughout that tiny volume. On average, the density differed from place to place by only about one part in 100,000.

Gradually, as the universe expanded and cooled, the pull of gravity enhanced those differences. Regions with slightly more particles formed stars and galaxies, and regions with slightly fewer particles emptied out to form voids, hollow.

Clearly, gravity has been crucial to the evolution of the universe. Unfortunately, we do not fully understand entropy when gravity is involved. Gravity arises from the shape of space-time, but we do not have a circumstantial theory of space-time. Whereas we can relate the entropy of fluid to the behavior of the molecules that constitute it, we do not know what constitutes space, so we do not know what gravitational microstates correspond to any particular macrostate.

Nevertheless, we have a blurred idea of how entropy evolves. In situations where gravity is negligible, a unitary distribution of particles has a high entropy. This condition is a state of equilibrium. Even when particles reallocate themselves, they are so thoroughly mixed that nothing

much seems to happen macroscopically. But if gravity is weighty and the volume is fixed, a smooth distribution has relatively low entropy. Gravity bustles particles to clump into stars and galaxies, and entropy increases noticeably, concurring with the Second Law.

Indeed, if we want to maximize the entropy of a volume when gravity is active, we know what we will get: a black hole. In the 1970s Stephen Hawking of the University of Cambridge confirmed a provocative suggestion of Jacob Bekenstein that black holes fit neatly into the Second Law. Black holes emit radiation and have entropy.

Eventually even black holes evaporate by emitting Hawking radiation. A black hole does not have the highest entropy. The volume of space in the universe, however, appears to be growing without limit. In 1998 astronomers discovered that cosmic expansion is revving up. The most outspoken explanation is the existence of dark energy which does not appear to dilute away as the universe expands. It is not the only explanation for cosmic acceleration, but attempts to come up with a better idea have so far been in vain.

If dark energy does not dilute away, the expanse of the universe will never stop. Distant galaxies will disappear from view. Those that do not will collapse into black holes. What will be left is a universe that is—for all wilful purposes—empty. Only then will the universe truly have maxed out its entropy.

Past vs. Future

The striking feature of this story is the pronounced difference between Past and Future. The universe starts in a low-entropy state. It evolves through a state of medium entropy—the lumpy distribution of stars and galaxies. It ultimately reaches a state of high entropy—nearly empty space.

Why are the past and future so different? As philosopher Huw Price of the University of Sydney has reiterated, any reasoning that applies to the initial conditions should also apply to the final conditions, or we will be guilty of daresaying the very thing we were trying to prove. Either we have to take the profound asymmetry of time as a blunt feature of the universe that escapes explanation, or we have to dig deeper into the workings of space and time.

Many diligent cosmologists have tried to attribute the time asymmetry to the process of cosmological inflation. Inflation is an attractive explanation for many basic features of the universe. According to this idea, the early universe was filled with a temporary form of dark energy, whose density was enormously higher than the dark energy today. This energy accelerated the expansion of the universe at a fantastic rate, after which it decayed into matter and radiation, leaving behind a tiny wisp of dark energy that is becoming relevant again today.

The original motivation for inflation was to provide a robust explanation for the finely tuned conditions in the early universe. The acceleration driven by the temporary dark energy smoothes out the universe almost perfectly. The prior distribution of matter and energy is indifferent. Once inflation starts, it removes any traces of the preexisting conditions, leaving us with a hot, dense, smooth early universe.

The inflationary paradigm has been very successful in many facets. Its prophecies of slight deviations from perfect uniformity agree with observations of density variations in the universe. As an explanation for time asymmetry, however, cosmologists increasingly consider it a "bit of a deception", for reasons that Roger Penrose of the University of Oxford and others have emphasized. For the process to work as desired, the ultra-dense dark energy had to begin in a very specific

configuration. In fact, its entropy had to be fantastically smaller than the entropy of the hot, dense gas into which it decayed. That implies inflation has not really solved anything: it explains a state of unusually low entropy by invoking a prior state of even lower entropy. It simply pushes the puzzle back a step.

One of the reasons many cosmologists invoke inflation as an explanation of time asymmetry is that the initial configuration of dark energy does not seem all that unlikely. At the time of inflation, our observable universe was less than a centimeter across. Intuitively such a tiny region does not have many microstates, so it is not improbable for the universe to shamble by accident into the microstate corresponding to inflation.

Unfortunately this intuition is misguided. The early universe has exactly the same number of microstates as the entire universe does today. According to the rules of Quantum Mechanics[4], the total number of microstates never changes.

Among all the different ways the microstates of the universe can arrange themselves, only an incredibly tiny fraction corresponds to a smooth configuration of ultradense dark energy packed into a tiny volume. The conditions conducive to inflation to begin are extremely specialized and therefore describe a very low entropy configuration.

A Time-Symmetric Universe

Thus, inflation is of no help in explaining why the past is different from the future. One bold but simple strategy is just to say: perhaps the very far past is not different from the future after all. Perhaps the distant past, like the future, is actually a high-entropy state.

Some cosmologists imagine that the universe went through a "bounce". Before this event, space was contracting. But instead of simply crashing to a point of infinite density, new physical principles—quantum gravity, extra dimensions, string theory or else—kicked in to save the day at the last minute, and universe came out the other side into what we now perceive as the Big Bang.

Though intriguing, bouncing cosmologies do not explain the "arrow of time". Either entropy was increasing as the prior universe approached the crunch—in which case the "arrow of time" stretches infinitely far into the past—or the entropy was decreasing, in which an unnatural low-entropy condition occurred in the middle of the universe's history.

Instead, let us suppose that the universe started in a high-entropy state. A good candidate for such a state is empty space. The tendency of empty space is to just sit there, unchanging. So the problem is: how do we get our current universe out of a desolate and quiescent time? The secret might lie in the existence of dark energy.

In the presence of dark energy, empty space is not completely empty. Fluctuations of quantum fields give rise to a very low temperature. All quantum fields experience occasional thermal fluctuations in such a universe. That means it is not perfectly quiescent; if we wait long enough, individual particles and even substantial collections of particles will fluctuate into existence, only to once again disperse into the vacuum.

Among the things that can fluctuate into existence are small patches of ultradense dark energy. If conditions are just right, that patch can undergo inflation and pinch off to form a separate universe all its own—a baby universe. Our universe may be the offspring of some other universe.

This scenario bears some resemblance to the standard account of inflation in a superficial way. There, too, we posit that a patch of ultradense dark energy arises by chance, igniting inflation. The difference is the nature of the starting conditions. In the standard account, the patch arose in a wildly fluctuating universe, in which the vast bulk of fluctuations produced nothing resembling inflation. It would seem to be much more likely for the universe to fluctuate straight into a hot big bang, bypassing the inflationary stage altogether.

In our new scenario, the preexisting universe was never randomly fluctuating. Rather, it was in a very specific state: empty space. What this theory claims—and what remains to be proved—is that the most likely way to create universes like ours is to go through a period of inflation, rather than fluctuating there directly.

(Adapted from "Does Time Run Backward in Other Universes?", http://www.stealthskater.com/Documents/BigBang_05.pdf, written by Sean M. Carroll)

Notes

① Big Bang

The Big Bang theory is the prevailing cosmological model for the universe from the earliest known periods through its subsequent large-scale evolution. The model describes how the universe expanded from a very high-density and high-temperature state, and offers a comprehensive explanation for a broad range of phenomena, including the abundance of light elements, the cosmic microwave background, large scale structure and Hubble's law. If the known laws of physics are extrapolated to the highest density regime, the result is a singularity which is typically associated with the Big Bang. Detailed measurements of the expansion rate of the universe place this moment at approximately 13.8 billion years ago, which is thus considered the age of the universe. After the initial expansion, the universe cooled sufficiently to allow the formation of subatomic particles, and later simple atoms. Giant clouds of these primordial elements later coalesced through gravity in halos of dark matter, eventually forming the stars and galaxies visible today.

② The "arrow of time"

The arrow of time, or time's arrow, is a concept developed in 1927 by the British astronomer Arthur Eddington involving the "one-way direction" or "asymmetry" of time. It is an unsolved general physics question. This direction, according to Eddington, can be determined by studying the organization of atoms, molecules, and bodies, and might be drawn upon a four-dimensional relativistic map of the world ("a solid block of paper").

③ Second Law of Thermodynamics

The Second Law of Thermodynamics states that the total entropy of an isolated system can only increase over time. It can remain constant in ideal cases where the system is in a steady state (equilibrium) or undergoing a reversible process. The increase in entropy accounts for the irreversibility of natural processes, and the asymmetry between the future and the past.
Historically, the Second Law was an empirical finding that was accepted as an axiom of thermodynamic theory. Statistical thermodynamics, classical or quantum, explains the microscopic origin of the law.

④ **Quantum Mechanics**

Quantum mechanics (QM, also known as quantum physics or quantum theory), including quantum field theory, is a branch of physics which is the fundamental theory of nature at small scales and low energy levels of atoms and subatomic particles. Classical physics, the physics existing before quantum mechanics, derives from quantum mechanics as an approximation valid only at large (macroscopic) scales. Quantum mechanics differs from classical physics in that energy, momentum and other quantities are often restricted to discrete values (quantization), objects have characteristics of both particles and waves (wave-particle duality), and there are limits to the precision with which quantities can be known (uncertainty principle).

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) How do you think the universe came into being?
2) What do you think of the Big Bang theory? Does it explain sufficiently how the universe works?
3) Do you believe the aliens exist?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The observations we have made can help cosmologists completely understand what the universe is made of and how it has evolved.
2) ________ The example of "a cuppa" proves that an object both has microstate and so does the entropy.
3) ________ Entropy could be fully understood when gravity is taken into consideration.
4) ________ It is suggested by Jacob Bekenstein that black holes fit neatly into the Second Law and later confirmed by Stephen Hawking.
5) ________ Although inflation theory has been successful in many aspects, it still can't help explain fully the differences between the past and the future.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

apprehend	turmoil	darn	overthrow	defendant
outspoken	willful	hospitality	paste	revisit
takeover	wilderness	deregulate	expedient	glib

1) The response of the audience varied from outright rejection to warm ________.
2) He ________ his old house after 35 years and indulged himself in reminiscence.
3) He has shown a ________ disregard for other people's feelings.
4) The government experienced a military ________ in 2002 and lost its power.
5) Groups of galaxies are found in remote ________ of outer space.
6) The jury believed that the ________ was guilty.
7) Science is the systematic method by which we ________ what is true about the real world in which we live.
8) Marley thought email was the most ________ way to communicate with distant relatives.
9) She has been an ________ advocate of women's rights throughout her life.
10) These feelings are likely to make angry people attempt to ________ the government.
11) The children used ________ and construction paper to make Mother's Day cards.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) The microscopic laws of physics that underlie the behavior of the universe do not distinguish between Past and Future.
2) The "arrow of time" is arguably the most blatant feature of the universe that cosmologists are currently at an utter loss to explain.
3) It is not the only explanation for cosmic acceleration, but attempts to come up with a better idea have so far been in vain.
4) One of the reasons many cosmologists invoke inflation as an explanation of time asymmetry is that the initial configuration of dark energy does not seem all that unlikely.
5) What this theory claims—and what remains to be proved—is that the most likely way to create universes like ours is to go through a period of inflation, rather than fluctuating there directly.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

infuriate	injunction	ecstatic	fairs	dude
despicable	dressmaker	doorbell	courtyard	yuk

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) pow	a. (informal in Spanish) cute and delicate
2) acne	b. a mixture, as of finely chopped apples, raisins, spices, meat, and rum or brandy, used especially as a pie filling
3) mono	c. joining two nonadjacent vertices of a polygon
4) netball	d. used to express sudden pain or displeasure
5) offside	e. shaped by hammering with tools
6) mincemeat	f. the rendered fat from a pig, especially from the abdomen, used in cooking
7) haggle	g. the generally triangular section of the wall at the end of a pitched roof,

occupying the space between the two slopes of the roof

8) wrought **h.** a prisoner of a war

9) hearse **i.** a chronic skin disease common in adolescence, involving inflammation of the sebaceous glands and characterized by pustules on the face, etc.

10) ouch **j.** to bargain, as over the price of something

11) gable **k.** a team game similar to basketball, played mainly by women

12) cuff **l.** a person who receives something

13) lard **m.** a vehicle for conveying a coffin to a church or cemetery

14) diagonal **n.** a fold used as trimming at the bottom of a sleeve

15) recipient **o.** (sports) illegally ahead of the ball or puck in the attacking zone

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

emulsion	collier	horseman	steroid	florist	ammonia	greyhound
chlorine	duchess	nicotine	steamer	tug	serviceman	alderman
aerosol	umpire	geordie	steamship	pastor	handyman	polythene

Group A: emulsion

____

____

Group B: collier

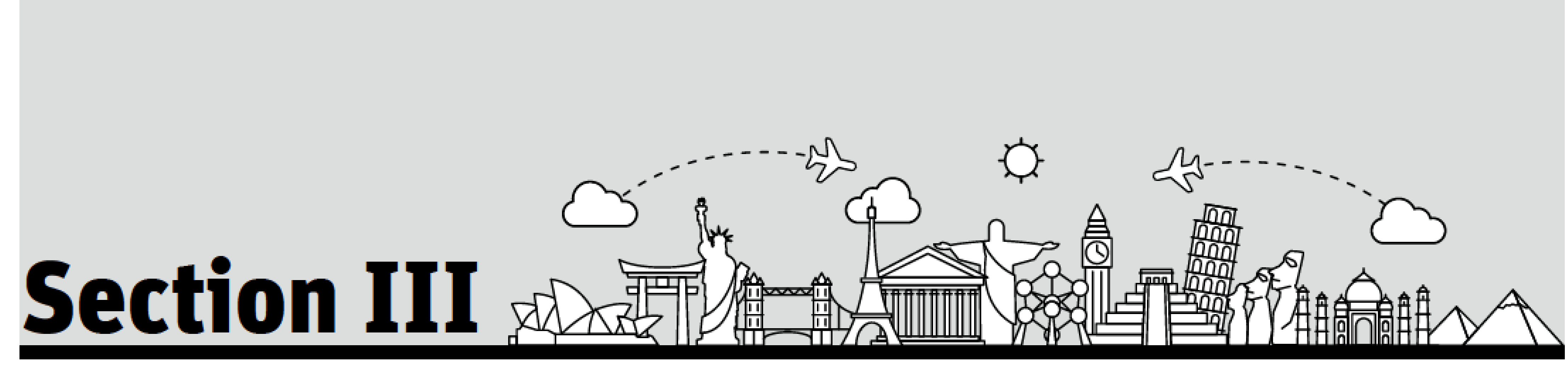
____

____

Group C: horseman

____

____



Section III

Text B: To the Moon and Beyond

Part 1　Power of Words

Core Words

① **vibrate** [vaɪ'breɪt] ***vi./vt.*** **(vibrated/vibrated/vibrating)**

If something vibrates or if you vibrate it, it shakes with repeated small, quick movements.

synonym　shake; quiver; tremble; shudder; pulsate

word family　vibrant; vibrational; vibratory; vibration; vibrating; vibrator; vibrancy

Example 1　The ground shook and the cliffs seemed to vibrate.

Example 2　The floor was vibrating to the beat of the music.

② **compulsion** [kəm'pʌlʃn] ***n.***

A compulsion is a strong desire to do something, which you find difficult to control.

synonym　impulse; urge

word family　compulsive; compulsory; compulsively; compulsorily; compulsivity

related phrase　under no compulsion to do sth.; by compulsion; compulsion to do sth.

Example 1　He felt a sudden compulsion to drop the bucket and run.

Example 2　Leith felt an overwhelming compulsion to tell him the truth.

③ **overcrowd** [ˌəʊvə'kraʊd] ***vt.*** **(overcrowded/overcrowded/overcrowding)**

To fill (a room, vehicle, city, etc.) with more people or things is desirable.

word family　overcrowded; overcritical; overdrive; overdress; overcompensation; overcompensate

Example 1　The manager of that theater created a dangerous situation by allowing people to overcrowd the balcony.

Example 2　Don't overcrowd a room with large furniture.

④ **roar** [rɔː] ***n.***

a loud continuous noise made by the wind or sea, or by a machine, or a loud deep sound made by an animal, especially a lion, or by somebody's voice

synonym　shout; yell; bawl; holler; crash

antonym　whisper

word family　roaring; roarer

related phrase set the room in a roar

Example 1 Her voice was drowned by the roar of the traffic.

Example 2 The roar of the engines died out as the rocket vanished into the cloud.

⑤ **salvage** ['sælvɪdʒ] ***vt.*** **(salvaged/salvaged/salvaging)**

If something is salvaged, someone manages to save it, for example, from a ship that has sunk, or from a building that has been damaged.

synonym save; recover; rescue

word family salvageable; salvific; salvation; salvager; salvor

related phrase salvage sth. from sth.; salvage ship/reputation

Example 1 The team's first task was to decide what equipment could be salvaged.

Example 2 They managed to salvage only a few of their belongings from the fire.

⑥ **impetus** ['ɪmpɪtəs] ***n.***

Something that gives a process impetus or an impetus makes it happen or progress more quickly.

synonym push; motivation; incentive; stimulus; momentum

antonym inertia

word family impetuosity

related phrase reform impetus; intellectual impetus

Example 1 The impetus for change came from lawyers.

Example 2 Children need an impetus to study.

⑦ **hitch**[hɪtʃ] ***n.*** **(*pl.* hitches)**

A hitch is a slight problem or difficulty which causes a short delay.

synonym snag; drawback; glitch; fault; trouble

word family hitchhiker

related phrase technical/slight/last-minute hitch; without a hitch

Example 1 After some technical hitches the show finally got under way.

Example 2 There were some minor technical hitches when the product was first released.

⑧ **parachute** ['pærəʃuːt] ***n.***

A parachute is a device that enables a person to jump from an aircraft and float safely to the ground; It consists of a large piece of thin cloth attached to your body by strings.

synonym chute

word family parachuter

related phrase a parachute jump

Example 1 They fell 41,000 ft before opening their parachutes.

Example 2 Instead of gliding through the air as he expected, he made a parachute jump and fell to the ground.

⑨ **rumble** ['rʌmbl] ***n.***

A rumble is a low, continuous noise.

synonym thrump; brattle
word family rumbling; rumbled; rumbly
related phrase the rumble of traffic/gunfire

Example 1 The silence of the night was punctuated by the distant rumble of traffic.

Example 2 I hear the rumble of thunder in the distance.

⑩ **consecutive** [kən'sekjətɪv] ***adj.***

Consecutive periods of time or events happen one after the other without interruption.

synonym successive; uninterrupted; following; serial
word family consecutively
related phrase consecutive months/weeks/days

Example 1 It had rained for four consecutive days.

Example 2 Can they win the title for the third consecutive season?

⑪ **erosion** [ɪ'rəʊʒn] ***n.***

Erosion is the gradual destruction and removal of rock or soil in a particular area by rivers, the sea, or the weather.

synonym corrosion; attrition; eating away
word family eroded; eroding; erose; erosive; erode
related phrase soil/wind erosion; erosion resistance

Example 1 Local officials have warned that China faces a catastrophe if it fails to stop erosion and other problems around the reservoir.

Example 2 Each year, the ocean surf causes substantial erosion of these beaches as it carries tons of sand with it back into the ocean.

⑫ **exacerbate** [ɪg'zæsəbeɪt] ***vt.*** **(exacerbated/exacerbated/exacerbating)**

If something exacerbates a problem or bad situation, it makes it worse.

synonym worsen; aggravate; impair; intensify
antonym soothe
word family exacerbation
related phrase exacerbate problem; exacerbate crisis

Example 1 The recession has exacerbated this problem.

Example 2 I don't want to exacerbate the situation.

⑬ **hemisphere** ['hemɪsfɪə] ***n.***

A hemisphere is one half of the earth.

synonym semisphere

word family hemispherical; hemispheric
related phrase northern/southern/western hemisphere

Example 1 The expert gave us a lecture on the depletion of the ozone layer in the northern hemisphere.

Example 2 The Western Hemisphere, Powell said, faces more economic and political troubles than a year ago.

⑭ **onset** ['ɒnset] ***n.***

The onset of something is the beginning of it, used especially to refer to something unpleasant.

synonym start; beginning; inception; commencement; arrival
antonym conclusion
related phrase the onset of sth.

Example 1 Most of the passes have been closed with the onset of winter.

Example 2 At the onset of an emergency, it may be difficult to foresee all the administrative and community services likely to be required.

⑮ **gleam** [gliːm] ***vi.*** **(gleamed/gleamed/gleaming)**

If an object or a surface gleams, it reflects light because it is shiny and clean.

synonym glitter; sparkle; shine; glow; blaze; flash
word family gleaming; gleamingly; gleamy; gleamer

Example 1 His black hair gleamed in the sun.

Example 2 We saw the lights of the little town gleaming in the distance.

⑯ **flammable** ['flæməbl] ***adj.***

Flammable chemicals, gases, cloth, or other things catch fire and burn easily.

synonym combustible; inflammable
word family flammability; inflammable; non-flammable; flame; flamingo
related phrase flammable gas/liquid/vapor

Example 1 Are they flammable liquids such as petrol or kerosene?

Example 2 Caution! Highly flammable liquid.

⑰ **mammoth** ['mæməθ] ***adj.***

You can use mammoth to emphasize that a task or change is very large and needs a lot of effort to achieve.

synonym enormous; gigantic; huge; tremendous; massive; macro
antonym tiny
related phrase a mammoth task

Example 1 They undertook the mammoth task of relocating the library.

Example 2 Reforming the prison system would be a mammoth task.

⑱ **memorable** ['memərəbl] ***adj.***

Something that is memorable is worth remembering or likely to be remembered, because it is special or very enjoyable.

synonym obvious; prominent; marked; noted; unforgettable; notable; outstanding; remarkable; striking

antonym forgettable

word family memorably; memorial; memento; memorabilia; memorability

related phrase memorable experience/occasion/day/moment/year

Example 1 It's a perfect setting for a nostalgic memorable day.

Example 2 We want to make this a truly memorable day for the children.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

canopy	capsule	cargo	Celsius	char
comet	countdown	coup	crescent	departure
descent	equator	fahrenheit	flank	groovy
hurl	interface	shack	shroud	shudder
swoop	throttle			

Part 2 Text

To the Moon and Beyond

The moon, a luminous disk in the inky sky, appears suddenly above the broad crescent of the Earth's horizon. The four astronauts in the Orion[1] crew exploration vehicle have witnessed several such spectacular and groovy moonrises since their spacecraft reached orbit some 300 kilometers above the vast expanse of our home planet. But now with a well-timed rocket boost, the pilot is ready to accelerate their vessel toward the distant target ahead. "Translunar injection burn in 10 seconds ..." comes the call over the headset. "Five, four, three, two, one, mark ... ignition ..." White-hot flames whiff from a rocket nozzle far astern, and the entire ship—a stack of functional modules—vibrates as the crew starts the voyage to our nearest celestial neighbor, a still mysterious place that humans have not visited in nearly half a century. The year is 2020, and Americans are returning to the moon. This time, however, the goal is not just to come and go but to establish an outpost for a new generation who have the compulsion to explore the space.

The Orion vehicle is a key component of the Constellation Program[2], NASA's ambitious, multibillion-dollar effort to build a space transportation system that can not only bring humans to the moon and back but also resupply the International Space Station[3] (ISS) and eventually place people on the planet Mars to relieve the earth's problem of being overcrowded. To minimize development risks and costs, NASA[4] planners based the Constellation Program on many of the tried-and-true technical principles and know-how established during the Apollo[5] program, an

engineering coup or feat that put men safely on the moon in the late 1960s and early 1970s. At the same time, NASA engineers are redesigning many systems and components using updated technology.

The latest structural designs, electronics, and computing and communications technologies will help project designers expand the new spacecraft's operational flexibility beyond that of Apollo. Orion, for instance, will be able to dock with other craft automatically and to loiter in lunar orbit for six months with no one onboard. To give you a better feel for what the program involves, let us start on the ground, before the Orion crew leaves the Earth. From there, we will trace the progress of a prototypical lunar mission and the technologies planned to accomplish each stage.

Up, Up and Away

Towering 110 meters above the salt marshes of Florida's Kennedy Space Center, the two-stage Ares V cargo launch vehicle stands poised to blast off. The uncrewed vehicle, which contains a cluster of five powerful rocket engines, has almost the height and girth of the massive Saturn V rocket of Apollo fame. Derived from the space shuttle's external tank, Ares V's central booster tank delivers liquid-oxygen-hydrogen propellants to the vehicle's RS-68 engines. Two "straps-on", solid-fuel rocket boosters adapted from the space shuttle's system flank Ares V's central cylinder. They add the extra thrust that the launcher will need to loft the buglike lunar lander and the "Earth departure stage"—a propulsion module that contains a liquid-oxygen-hydrogen-fueled J-2X engine that will enable Orion to escape Earth's gravity and travel to the moon.

Abruptly, a flash exits the tail of the Ares V, and mounds of billowing smoke clouds soon envelop the booster, gantry and launchpad. After a momentary pause, a tremendous roar echoes across the spaceport, sending birds fleeing in all directions. Slowly at first, the big rocket ascends atop an ever expanding column of gray-white exhaust. Accelerating steadily, the vehicle blazes a smoky trail across the sky and disappears into the heavens. Minutes later amid the silence of near-Earth space, Ares V jettisons its strap on boosters, which fall into the sea, where they will be salvaged. It then sheds the protective cargo sheath that covers its nose, revealing the lunar landing module. Circling the globe at an altitude of about 300 kilometers, the robot spacecraft now awaits the next step in the lunar excursion plan: rendezvous with Orion.

That same day the four moon-bound astronauts perch 98 meters above another Kennedy launchpad, anticipating imminent liftoff. Just below their cone-shaped Orion crew capsule is a drum-shaped service module that contains the spacecraft's on-orbit propulsion engine and much of its life-support system. Protective fairings envelop both to shield them from the strong aerodynamic forces and harsh conditions they will encounter during ascent. The crew capsule and the service module sit atop NASA's two-stage Ares I crew launch vehicle. A spacecraft adapter serves as the structural and electrical interface between the Orion spacecraft and Ares I.

Capping the tall stack is an escape tower that is primed to rocket the occupants away from danger in the event of a failure. As the 1986 Challenger accident proved, space shuttle crews have little chance of survival if their ship sustains a major technical problem during launch and early ascent. Orion's launch-abort system (LAS), in contrast, can for a few seconds impart an impetus that is equivalent to about 15 times its own mass and that of the detached crew module. The rocket tower is set to rapidly remove the astronauts from harm's way during a mission abort while still on the launchpad or during ascent. Should a serious hitch occur on the ground, the separated system

would reach an altitude of about 1,200 meters to allow for parachute deployment and a downrange, or horizontal, distance of about 1,000 meters to clear the launchpad. Mission planners estimate that the LAS, together with Orion's advanced guidance and control system, would be able to return the crew safely 999 out of 1,000 times it is needed.

But any such thoughts recede rapidly as the exhilaration of the impending launch mounts. As the countdown nears zero, commander and pilot intently eye the flight instruments on the flat-screen displays of Orion's "glass cockpit"—adapted from a safety-redundant version of the avionics system used by advanced airliners such as the newly introduced Boeing 787 Dreamliner. The cockpit with its computerized, fully electric "fly by wire" controls, energy conserving electrical equipment and few mechanical switches, would be nearly unrecognizable to an Apollo-era astronaut. A shudder ripples up through the entire structure, followed by a thunderous rumble. The Stick starts to move skyward. Gaining speed with every second, it rises rapidly, pressing the astronauts into their seats.

Almost two and a half minutes into the flight, the solid rocket is driving Ares I upward at a speed of Mach 6. At a height of about 61,000 meters, the first stage separates and falls back to the Earth on parachutes so that it may be recovered and later recycled. Meanwhile the J-2X second-stage rocket motor ignites, sending the Orion crew module, the service module and the LAS through the last reaches of the atmosphere. Their usefulness ended now that the craft has exited the atmosphere, the aerodynamic shrouds break away to maximize ascent performance by shedding weight. By this time the vessel has gained enough velocity to reduce the risk of an emergency abort, so the LAS and its protective fairing also separate and fall away. The second-stage engine cuts off as the crew capsule and the service module near an altitude of about 100 kilometers.

Rendezvous in Earth Orbit

The service module engine then ignites, completing the job of inserting Orion into orbit and initiating the maneuvers it needs to rendezvous with the Earth departure stage. Gradually, Orion catches up to the lunar lander and departure stage that Ares V had earlier placed into low Earth orbit. When the two craft finally rendezvous, the crew performs (or monitors) the final maneuvers and keeps an eye on the automated "soft capture" system as it aligns the pair and then smoothly docks them. Force-feedback and electromechanical components sense loads, automatically capturing the mating rings of the vehicles and actively damping out any contact forces. Ship and crew are now nearly ready to head for the moon.

When all is ready, the Earth departure stage rocket engine ignites to propel the spacecraft toward the moon. Engineers are configuring Orion to support both "lunar sortie missions", in which crew members spend four to seven consecutive days on the moon's surface to demonstrate the Orion system's ability to transport and land humans on Earth's satellite, and "lunar outpost missions", in which a semicontinuous human presence would be established there. Because the maximum duration of a crew's stay on the lunar surface is 210 days (determined by the available supplies of oxygen, water and other consumables), Orion's continuous operation capability must exceed that period. The biggest design driver for Orion lunar missions is the amount of propellant required to meet these objectives.

After a four-day trip outbound, the crew enters into lunar orbit, having dumped the Earth departure stage along the way. The four astronauts climb into the lander, leaving the crew capsule

and service module to wait for them in orbit. As with the Apollo lunar excursion module, the lunar lander consists of two components. One is the descent stage, which has legs to support the craft on the surface as well as most of the crew's consumables and scientific equipment. The other part is the ascent stage that shacks the crew. After landing and exploring the surface, the foursome blasts off the moon's surface and later docks with the crew and service modules in orbit. The ascent stage of the lander is discarded into outer space, and Orion rockets back to the Earth.

Return to the Home Planet

As the Orion astronauts close in on the blue planet, they may have to prepare for a reentry and landing quite unlike those of Apollo. Like the Gemini and Mercury spacecraft before it, Apollo splashed down in the ocean after it had swooped through the atmosphere. But because water landings would require costly fleets of recovery ships and expose a reusable spacecraft to saltwater erosion, NASA planners may decide that Orion should touch down on land, as the Russian Soyuz spacecraft does. Orion's greater size, weight and lift, however, exacerbate the engineering challenge. The "land landing" mode is also important to minimize life-cycle costs. If the agency instead opts to land in the ocean, Orion will be fitted with much the same capabilities as Apollo.

Unfortunately, setting down on American soil after a lunar mission presents a fundamental problem. For nearly half of the lunar month, orbital conditions would place any landing site in the Southern Hemisphere, away from the planned locations in the western continental U.S.. Although the time of departure from lunar orbit can vary the longitude of the reentry point, its latitude is fixed by the declination (angular distance from the equator) of the moon relative to the Earth at lunar departure. Thus, to reach landing sites in the western U.S. or waters near the continental U.S. during unfavorable periods of the lunar month, Orion will stretch its landing point into the Northern Hemisphere by employing aerodynamic lift produced as it descends into the Earth's outer atmosphere. A trajectory of this type, in which spacecraft bounces across the upper atmosphere like a stone skipping across a pond, is sometimes known as a skip reentry.

When the spacecraft's attitude is positioned properly for reentry and its trajectory is following the correct, shallow-angle route, the crew prepares for the onset of deceleration forces as Orion encounters the atmosphere. At first, the crew begins to notice weak g-forces[6] caused by the resistance of the thin, high-altitude air. The g-forces, which push the crew members against their seats, grow steadily in strength as bits of gleaming heat-shield material and streams of ionized gas hurl past the windows. Shortly after Orion starts to scrape against the upper reaches of the atmosphere, the spacecraft rebounds briefly to a higher altitude. After the skip, the capsule dives deeply into the air on a path toward the landing site. Atmospheric reentry generates a couple of thousand degrees Celsius (1,000 degrees Celsius = 1,832 degrees Fahrenheit) on the undersurface of the spacecraft caused by the friction of the air rushing by at hypersonic speeds.

The leading candidate for Orion's base heat shield is a material called PICA, a matrix of carbon fibers embedded in a phenolic resin. At high temperatures, the flammable outer surface of the PICA layer ablates, or burns away, to carry off much of that extreme heat. The ablator's surface pyrolyzes when heated, leaving a heat-resistant layer of charred material. PICA was used in 2006, when it protected the Stardust spacecraft (which carried a sample from Comet Wild 2) as it came back to the Earth at 13,000 meters a second—the fastest controlled reentry ever. Being 40 times larger in the area, Orion's heat shield will need to be built in segments, thus adding new complexities.

Landing on Land

Finally, three large parachutes—which closely resemble those used by Apollo—deploy to slow the vehicle's rate of descent. The reassuring sight of the mammoth red-and-white canopies opening above tells the astronauts that their memorable trip is almost complete. Before long, Orion is jarred by the release of its large heat shield. Hanging below the big chutes, the crew module now descends at about eight meters a second.

In the case of a "land landing"—an airbag system huffs on the crew module's underside to absorb and throttle down the upcoming landing shock. With a solid jolt, the spacecraft at last sets down on dry land in the western American desert. Orion has returned home.

(Adapted from "To the Moon and Beyond", https://www.scientificamerican.com/article/to-the-moon-and-beyond/, written by Charles Dingell, William A. Johns, Julie Kramer White)

Notes



Orion

The Orion Multi-Purpose Crew Vehicle (Orion MPCV) is an American-European interplanetary spacecraft intended to carry a crew of four astronauts to destinations at or beyond low Earth orbit (LEO). Currently under development by NASA for launch on the Space Launch System, Orion is intended to facilitate human exploration of the moon, asteroids and Mars and to retrieve crew or supplies from the International Space Station if needed.

The Orion MPCV was announced by NASA on May 24, 2011, and is currently under development. Its design is based on the Orion Crew Exploration Vehicle from the cancelled Constellation Program. It has two main modules. The Orion command module is being built by Lockheed Martin at the Michoud Assembly Facility in New Orleans. The Orion Service Module, provided by the European Space Agency, is being built by Airbus Defence and Space.

Orion is a prominent constellation located on the celestial equator and visible throughout the world. It is one of the most conspicuous and recognizable constellations in the night sky. It was named after Orion, a hunter in Greek mythology. Its brightest stars are Rigel (Beta Orionis) and Betelgeuse (Alpha Orionis), a blue-white and a red supergiant, respectively.

② Constellation Program

The Constellation Program (abbreviated CxP) was a manned spaceflight program developed by NASA, the space agency of the United States, from 2005 to 2009. The major goals of the program were "completion of the International Space Station" and a "return to the Moon no later than 2020" with a crewed flight to the planet Mars as the ultimate goal. The program's logo reflected the three stages of the program: the Earth (ISS), the Moon, and finally Mars—while the Mars goal also found expression in the name given to the program's booster rockets: Ares (The Greek equivalent of the Roman god Mars). The technological aims of the program included the regaining of significant astronaut experience beyond low Earth orbit and the development of technologies necessary to enable sustained human presence on other planetary bodies.

Constellation began in response to the goals laid out in the Vision for Space Exploration under NASA Administrator Sean O'Keefe. O'Keefe's successor, Michael D. Griffin, ordered a complete review, termed the Exploration Systems Architecture Study,

which reshaped how NASA would pursue the goals laid out in the Vision for Space Exploration, and its findings were formalized by the NASA Authorization Act of 2005. The Act directed NASA to "develop a sustained human presence on the Moon, including a robust precursor program to promote exploration, science, commerce and U.S. preeminence in space, and as a stepping stone to future exploration of Mars and other destinations". Work began on this revised Constellation Program, to send astronauts first to the International Space Station, then to the Moon, and then to Mars and beyond.

Subsequent to the findings of the Augustine Committee in 2009 that the Constellation Program could not be executed without substantial increases in funding, on February 1, 2010, President Barack Obama announced a proposal to cancel the program, effective with the passage of the U. S. 2011 fiscal year budget, but later announced changes to the proposal in a major space policy speech at Kennedy Space Center on April 15, 2010. Obama signed the NASA Authorization Act of 2010 on October 11, which shelved the program, with Constellation contracts remaining in place until Congress would act to overturn the previous mandate. In 2011, NASA announced that it had adopted the design of its new Space Launch System.

③ International Space Station

The International Space Station (ISS) is a space station, or a habitable artificial satellite, in low Earth orbit. Its first component launched into orbit in 1998, the last pressurised module was fitted in 2011, and the station is expected to operate until 2028. Development and assembly of the station continues, with components scheduled for launch in 2018 and 2019. The ISS is the largest human-made body in low Earth orbit and can often be seen with the naked eye from Earth. The ISS consists of pressurised modules, external trusses, solar arrays, and other components. ISS components have been launched by Russian Proton and Soyuz rockets, and American Space Shuttles.

The ISS serves as a microgravity and space environment research laboratory in which crew members conduct experiments in biology, human biology, physics, astronomy, meteorology, and other fields. The station is suited for the testing of spacecraft systems and equipment required for missions to the Moon and Mars. The ISS maintains an orbit with an altitude of between 330 and 435 km (205 and 270 mi) by means of reboost manoeuvres using the engines of the Zvezda module or visiting spacecraft. It completes 15.54 orbits per day.

The ISS programme is a joint project among five participating space agencies: NASA, Roscosmos, JAXA, ESA, and CSA. The ownership and use of the space station is established by intergovernmental treaties and agreements. The station is divided into two sections, the Russian Orbital Segment (ROS) and the United States Orbital Segment (USOS), which is shared by many nations. As of January 2018, the American portion of ISS is being funded until 2025. Roscosmos has endorsed the continued operation of ISS through 2024 but has proposed using elements of the Russian Orbital Segment to construct a new Russian space station called OPSEK.

The ISS is the ninth space station to be inhabited by crews, following the Soviet and later Russian Salyut, Almaz, and Mir stations as well as Skylab from the U.S.. The station has been continuously occupied for 17 years and 312 days since the arrival of Expedition 1 on 2 November 2000. This is the longest continuous human presence in low Earth orbit, having surpassed the previous record of 9 years and 357 days held by Mir. It has been visited by

astronauts, cosmonauts and space tourists from 17 different nations. After the American Space Shuttle programme ended in 2011, Soyuz rockets became the only provider of transport for astronauts at the ISS.

The station is serviced by a variety of visiting spacecraft: the Russian Soyuz and Progress, the American Dragon and Cygnus, the Japanese H-II Transfer Vehicle, and formerly the American Space Shuttle and the European Automated Transfer Vehicle. The Dragon became the only provider of bulk cargo return to Earth (called downmass). Soyuz has very limited downmass capability.

On 28 March 2015, Russian sources announced that Roscosmos and NASA had agreed to collaborate on the development of a replacement for the current ISS. NASA later issued a guarded statement expressing thanks for Russia's interest in future co-operation in space exploration but fell short of confirming the Russian involvement.

④ NASA

The National Aeronautics and Space Administration (NASA ['næsə]) is an independent agency of the executive branch of the United States federal government responsible for the civilian space program, as well as aeronautics and aerospace research.

President Dwight D. Eisenhower established NASA in 1958 with a distinctly civilian (rather than military) orientation encouraging peaceful applications in space science. The National Aeronautics and Space Act was passed on July 29, 1958, disestablishing NASA's predecessor, the National Advisory Committee for Aeronautics (NACA). The new agency became operational on October 1, 1958.

Since that time, most U.S. space exploration efforts have been led by NASA, including the Apollo Moon landing missions, the Skylab space station, and later the Space Shuttle. Currently, NASA is supporting the International Space Station and is overseeing the development of the Orion Multi-Purpose Crew Vehicle, the Space Launch System and Commercial Crew vehicles. The agency is also responsible for the Launch Services Program (LSP) which provides oversight of launch operations and countdown management for unmanned NASA launches.

NASA science is focused on better understanding the Earth through the Earth Observing System, advancing heliophysics through the efforts of the Science Mission Directorate's Heliophysics Research Program, exploring bodies throughout the Solar System with advanced robotic spacecraft missions such as New Horizons, and researching astrophysics topics such as the Big Bang, through the Great Observatories and associated programs. NASA shares data with various national and international organizations such as from the Greenhouse Gases Observing Satellite. Since 2011, NASA has been criticized for low cost efficiency, achieving little results in return for high development costs.

⑤ Apollo

The Apollo program was the third United States human spaceflight program carried out by the National Aeronautics and Space Administration (NASA), the United States' civilian space agency. First conceived during the Presidency of Dwight D. Eisenhower as a three-man spacecraft to follow the one-man Project Mercury which put the first Americans in space, Apollo was later dedicated to President John F. Kennedy's national goal of "landing a man on

the Moon and returning him safely to the Earth" by the end of the 1960s, which he proposed in an address to Congress on May 25, 1961. Project Mercury was followed by the two-man Project Gemini. The first manned flight of Apollo was in 1968 and it succeeded in landing the first humans on Earth's Moon from 1969 through 1972.

Kennedy's goal was accomplished on the Apollo 11 mission when astronauts Neil Armstrong and Buzz Aldrin landed their Lunar Module (LM) on the Moon on July 20, 1969 and walked on its surface while Michael Collins remained in lunar orbit in the command spacecraft, and all three landed safely on the Earth on July 24. Five subsequent Apollo missions also landed astronauts on the Moon, the last in December 1972. In these six spaceflights, 12 men walked on the Moon.

Apollo ran from 1961 to 1972, and was supported by the two-man Gemini program which ran concurrently with it from 1962 to 1966. Gemini missions developed some of the space travel techniques that were necessary for the success of the Apollo missions. Apollo used Saturn family rockets as launch vehicles. Apollo/Saturn vehicles were also used for an Apollo Applications program which consisted of three Skylab space station missions in 1973–1974.

Apollo succeeded despite the major setback of a 1967 Apollo 1 cabin fire that killed the entire crew during a pre-launch test. Six manned landings on the Moon were achieved. A seventh landing mission, the 1970 Apollo 13 flight, failed in transit to the Moon when an oxygen tank explosion disabled the command spacecraft's propulsion and life support, forcing the crew to use the Lunar Module as a "lifeboat" for these functions to return to the Earth safely.

Apollo set several major human spaceflight milestones. It stands alone in sending manned missions beyond low Earth orbit; Apollo 8 was the first manned spacecraft to orbit another celestial body, while the final Apollo 17 mission marked the sixth Moon landing and the ninth manned mission beyond low Earth orbit. The program returned 842 pounds (382 kg) of lunar rocks and soil to Earth, greatly contributing to the understanding of lunar geology. The program laid the foundation for NASA's current human spaceflight capability, and funded construction of its Johnson Space Center and Kennedy Space Center. Apollo also spurred advances in many areas of technology incidental to rocketry and manned spaceflight, including avionics, telecommunications, and computers.

⑥ g-forces

The g-force (with g from gravitational) is a measurement of the type of acceleration that causes a perception of weight. Despite the name, it is incorrect to consider g-force a fundamental force, as "g-force" (lower case character) is a type of acceleration that can be measured with an accelerometer. Since g-force accelerations indirectly produce weight, any g-force can be described as a "weight per unit mass" (see the synonym specific weight). When the g-force acceleration is produced by the surface of one object being pushed by the surface of another object, the reaction force to this push produces an equal and opposite weight for every unit of an object's mass. The types of forces involved are transmitted through objects by interior mechanical stresses. The g-force acceleration (save for certain electromagnetic force influences) is the cause of an object's acceleration in relation to free fall.

The g-force acceleration experienced by an object is due to the vector sum of all non-gravitational and non-electromagnetic forces acting on an object's freedom to move.

In practice, as noted, these are surface-contact forces between objects. Such forces cause stresses and strains on objects, since they must be transmitted from an object surface. Because of these strains, large g-forces may be destructive.

Gravitation acting alone does not produce a g-force, even though g-forces are expressed in multiples of the acceleration of a standard gravity. Thus, the standard gravitational acceleration at the Earth's surface produces g-force only indirectly, as a result of resistance to it by mechanical forces. These mechanical forces actually produce the g-force acceleration on a mass. For example, the 1 g force on an object sitting on the Earth's surface is caused by mechanical force exerted in the upward direction by the ground, keeping the object from going into free fall. The upward contact force from the ground ensures that an object at rest on the Earth's surface is accelerating relative to the free-fall condition. (Free fall is the path that the object would follow when falling freely toward the Earth's center.) Stress inside the object is ensured from the fact that the ground contact forces are transmitted only from the point of contact with the ground.

Objects allowed to free fall in an inertial trajectory under the influence of gravitation only, feel no g-force acceleration, a condition known as zero-g (which means zero g-force). This is demonstrated by the "zero-g" conditions inside a freely falling elevator falling toward the Earth's center (in vacuum), or (to good approximation) conditions inside a spacecraft in Earth orbit. These are examples of coordinate acceleration (a change in velocity) without a sensation of weight. The experience of no g-force (zero-g), however it is produced, is synonymous with weightlessness.

In the absence of gravitational fields, or in directions at right angles to them, proper and coordinate accelerations are the same, and any coordinate acceleration must be produced by a corresponding g-force acceleration. An example here is a rocket in free space, in which simple changes in velocity are produced by the engines, and produce g-forces on the rocket and passengers.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) There has been debate on whether the space exploration should be done. How do you perceive this issue?
2) What do you think of space travel? Do you think it can work on common people in the near future?
3) Successfully landing on the moon was another milestone in man's technological progress. Can you name some other human feats?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The Constellation Program was based on many of the tried-and-true technical principles and know-how established during the Apollo program.
2) ________ Space shuttle crews have big chance of survival if their ship sustains a major technical problem during launch and early ascent with the development of technology.
3) ________ Ares V, the unscrewed vehicle, contains a cluster of four powerful rocket engines.
4) ________ The duration of a crew's stay on the lunar surface is determined by the available supplies of oxygen, water and other consumables.
5) ________ PICA, the leading candidate for Orion's base heat shield, protected the Apollo spacecraft in 2006.
6) ________ The Orion spacecraft at last sets down on dry land in the western American desert instead of the ocean.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

roar	vibrate	shroud	consecutive	gleam	stuffy	eyesore	doze
lenient	mourn	martial	veto	derogatory	gratitude	edgy	

1) This young man became famous overnight. However, nobody knew much about him. His family background ________ mystery.
2) His eyes ________ as he pounds intricate rhythms on his drum.
3) It was hot and ________ in the classroom even though two of the windows at the back had been opened.
4) Many people believe reckless drivers are treated too ________.
5) We all ________ his death and will miss his gentle yet keen sense of humour.
6) So we took something that was an ________ and made it into something beautiful.
7) If you can use one of your breaks or part of your lunch hour to ________ off in the car or in a vacant office, you'll find yourself as energized as the kindergartners awaking from their afternoon sleep.
8) The president ________ the economic package passed by Congress.
9) Last week Jackson apologized for ________ comments he made about Obama and about the candidate's speeches on black parental responsibility.
10) Each night, I drifted off to sleep to the ________ of motorcycle traffic below.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) The year is 2020, and Americans are returning to the moon. This time, however, the goal is not just to come and go but to establish an outpost for a new generation who have the compulsion

to explore the space.

2) Slowly at first, the big rocket ascends atop an ever expanding column of gray-white exhaust. Accelerating steadily, the vehicle blazes a smoky trail across the sky and disappears into the heavens.
3) Should a serious hitch occur on the ground, the separated system would reach an altitude of about 1,200 meters to allow for parachute deployment and a downrange, or horizontal, distance of about 1,000 meters to clear the launchpad.
4) Shortly after Orion starts to scrape against the upper reaches of the atmosphere, the spacecraft rebounds briefly to a higher altitude. After the skip, the capsule dives deeply into the air on a path toward the landing site.
5) The reassuring sight of the mammoth red-and-white canopies opening above tells the astronauts that their memorable trip is almost complete. Before long, Orion is jarred by the release of its large heat shield.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

overhear	ragged	dessert	drowsy	thrift
mutton	toothache	grunt	takeaway	grudge

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

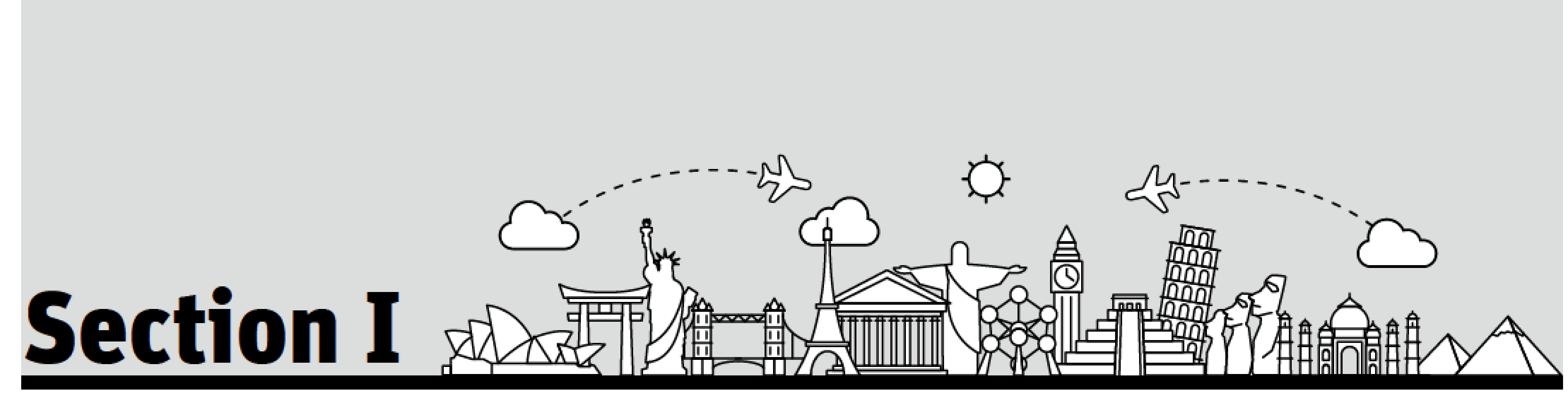
1) groovy	**a.** a sudden and decisive change of government illegally or by force
2) exacerbate	**b.** a place of worship which is associated with a particular holy person or object
3) coup	**c.** used in the names of some types of shops that provide a service, rather than selling things
4) impetus	**d.** a wooden hammer with a square head
5) shudder	**e.** a moving staircase on which people can go from one level of a building to another
6) parlour	**f.** a small, shallow pool of liquid that has spread on the ground
7) shrine	**g.** to shake with fear, horror, or disgust, or because someone is cold
8) icon	**h.** attractive, fashionable, or exciting
9) indigestion	**i.** a substance that you can use on your body to hide or prevent the smell of sweat
10) consul	**j.** a force that moves something along
11) escalator	**k.** to make worse
12) deodorant	**l.** an official who is sent by his or her government to live in a foreign city in order to help other citizens from his or her country who are in that foreign city
13) puddle	**m.** a graphic symbol (usually a simple picture) that denotes a program or a command or a data file or a concept in a graphical user interface
14) mallet	**n.** words or pictures that are written or drawn in public places, for example on walls or posters
15) graffiti	**o.** a disorder of digestive function characterized by discomfort or heartburn or nausea

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. cucumber	B. parsley	C. turnip	D. apathy
2)	( )	A. buffalo	B. zebra	C. canvas	D. ox
3)	( )	A. trout	B. doe	C. carp	D. plaice
4)	( )	A. clarinet	B. croft	C. flute	D. harp
5)	( )	A. cornflake	B. porridge	C. omelette	D. syrup



Unit 5
Health



Section I

Focus on Fact and Opinion

When you read, it is of great importance to judge facts and opinions carefully in order to come to the right conclusion. Being able to discern the difference between facts and opinions will help you evaluate the reliability and usefulness of the texts you encounter. While for some readers, it is difficult to distinguish facts and opinions. Indeed, opinions and facts are not always easily identifiable and separable.

Fact

A fact is information that can be proved true through objective evidence. The evidence may be physical proof or the spoken or written testimony of witnesses.

Following are some more facts—they can be checked for accuracy and thus proved true.

Fact: Albert Einstein willed his violin to his grandson.

(This statement can be checked in historical publications or with Einstein's estate.)

Fact: On September 11, 2001, terrorists destroyed the New York World Trade Center, killing thousands.

(This event was witnessed in person or on television by millions, and it's firmly in records worldwide.)

Opinion

An opinion is a belief, judgment, or conclusion that cannot be objectively proved true. As a result, it is open to question. For instance, on my great-grandmother's gravestone, we are told that she is "sweetly sleeping". Of course I certainly hope that she is sleeping sweetly, but I have no way of knowing for sure. The statement is an opinion.

Or consider this example: after watching a movie, someone might state that the film was too sentimental. The statement is an opinion because it cannot be objectively proved. Another person might see the same movie and find it realistic. Neither statement can be proved; both are opinions.

Here are some more opinions:

Opinion: The Quad Tower is the ugliest building in the city.

(There's no way to prove this statement because two people can look at the same building and come to different conclusions about its beauty. "Ugly" is a value word, a word we use to express a value judgment. Value or judgment words are signals that an opinion is being expressed. By their very nature, these words represent opinions, not facts.)

Opinion: The attack on the World Trade Center was the worst act of terrorism in the history of humankind.

(Whether something is "worst" is always debatable. "Worst" is another value word.)

There are several added points to keep in mind when separating facts from opinions.

A: Statements of facts may be found to be untrue.

Suppose you discovered that the Quad Tower is only the second-tallest building in the city. The statement would then be an error, not a fact. It is not unusual for evidence to show that a "fact" is not really true. It was once considered to be a fact that the world was flat, for example, but that "fact" turned out to be an error.

B: Opinions may be masked as facts.

People sometimes present their opinions as facts. Here are two more examples:

In point of fact, neither candidate for the mayor's office is well qualified.

The truth of the matter is that frozen taste as good as fresh foods.

Despite the words to the contrary, there are not statements of facts but statements of opinions.

C: Remember that value (or judgment) words often represent opinions. Here are examples of these words:

Value words

best	great	beautiful
worst	terrible	bad
better	lovely	good
worse	disgusting	wonderful

Value words often express judgments—they are generally subjective, not objective. While factual statements report on observed reality, subjective statements interpret reality. For example, the observation that it is raining outside is an objective one. The statement that the weather is bad, however, is subjective, an interpretation of reality.

D: The words should and ought to often signal opinions. Those words introduce what people think should, or ought to, be done. Other people will disagree.

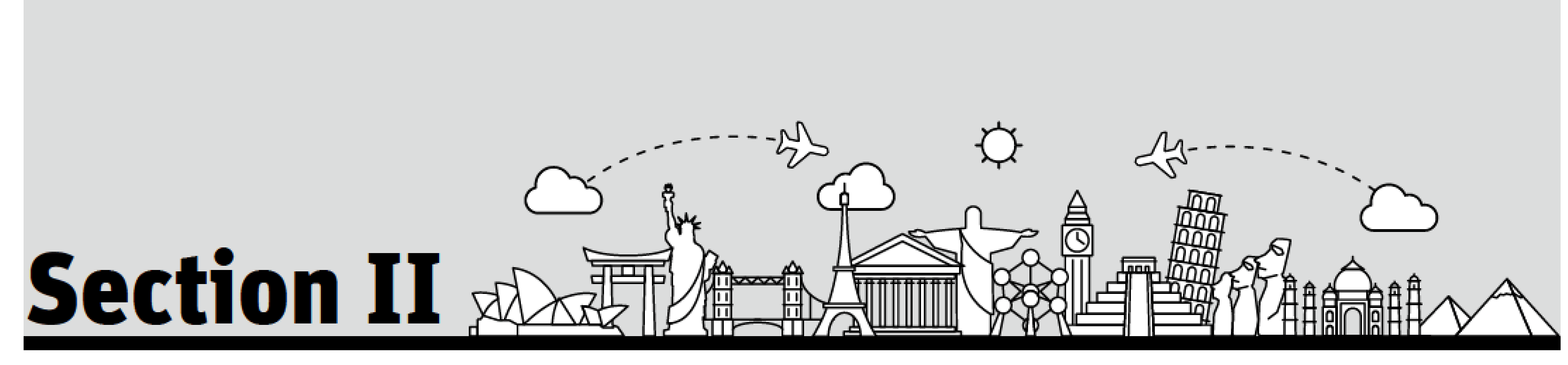
Couples should definitely not live together before marriage.

Couples ought to live together before getting married to be sure they are compatible.

E: Finally, remember that much of what we read and hear is a mixture of facts and opinions.

Recognizing facts and opinions is important because much information that sounds factual is really opinion. A political candidate, for example, may say, "My record is outstanding." Voters would wise to wonder what the value outstanding means to this candidate. Or an advertisement may claim that a particular automobile is "the most economical car on the road today", a statement that at first seems factual. But what is meant by economical? If the car offers the most miles per gallon but the worst record for expensive repairs, you might not agree that it's economical.

It is also worth noting that some opinions are more widespread than others—and may seem like facts. If 90 percent of those who see a movie think it's terrible, then many people will take it as a fact that the movie is a poor one. Nevertheless, this widespread belief is still opinion; it's possible that another generation of moviegoers will disagree with the popular opinion of the moment. Similarly, if many people believe the rumor that a particular politician has cheated on his taxes, it doesn't mean the rumor is a fact. Fair-minded people will base their own conclusions on more than widespread belief; they will want facts.



Section II

Text A: Could Our Own Proteins Be Used to Help Us Conquer Cancer?

Part 1 Power of Words

Core Words

① **conquer** ['kɒŋkə] ***vt.*** **(conquered/conquered/conquering)**

to gain control over something that is difficult, using a lot of effort

synonym defeat; master; overcome; seize; take; capture; take over; take control

antonym surrender; lose; give in

word family conqueror; conquering; conquest

related phrase conquer your nerves/fear; conquer space/enemy

Example 1 I was certain that love was quite enough to conquer our differences.

Example 2 He has never conquered his addiction to smoking.

② **in its/their entirety**

If something is used or affected in its entirety, the whole of it is used or affected.

Example 1 The peace plan has not been accepted in its entirety by all parties.

Example 2 The film has been shown in its entirety for the first time.

③ **facilitate** [fə'sɪlɪteɪt] ***vi.*** **(facilitated/facilitated/facilitating)**

To facilitate an action or process, especially one that you would like to happen, means to make it easier or more likely to happen.

synonym promote; boost; further; make easy; ease; make possible; enable; simplify

antonym impede

word family facilitative; facility; facilitator; facilitation

related phrase facilitate progress/entry/process/change

Example 1 The new airport will facilitate the development of tourism.

Example 2 It would facilitate matters if they were more co-operative.

④ **prohibit** [prə'hɪbɪt] ***vt.*** **(prohibited/prohibited/prohibiting)**

to make something impossible or prevent it from happening

synonym forbid; ban; bar; proscribe; disallow

antonym permit

word family prohibitive; prohibitively; prohibition; prohibitionist

related phrase prohibit sb. from doing sth.; prohibit parking/use

Example 1 We are prohibited from drinking alcohol during working hours.

Example 2 The high cost prohibits the widespread use of this dictionary.

⑤ **proclaim** [prə'kleɪm] ***n.*** **(proclaimed/proclaimed/proclaiming)**

to show something clearly or be a sign of something; If people proclaim something, they formally make it known to the public.

synonym announce; declare; state; make known; decree

related phrase proclaim rights; solemnly proclaim

Example 1 The stripes on her uniform proclaimed her seniority.

Example 2 Britain proudly proclaims that it is a nation of animal lovers.

⑥ **collide with**

If a moving person or object collides with a person or object that is not moving, they crash into them.

Example 1 Two trains collided head-on in Ohio early this morning.

Example 2 Racing up the stairs, he almost collided with Daisy.

⑦ **shortfall** ['ʃɔːtfɔːl] ***n.***

If there is a shortfall in something, there is less of it than you need.

synonym deficit; loss; gap; lack; shortage

antonym excess

related phrase expected shortfall; power shortfall; a shortfall in sth.

Example 1 The government has refused to make up a $30,000 shortfall in funding.

Example 2 Parents have been asked to pay £30 each to cover the shortfall in the budget.

⑧ **descend** [dɪ'send] ***vi./vt.*** **(descended/descended/descending)**

to move from a higher level to a lower one

synonym go down; move down

antonym ascend; rise

word family descent; descendant; descended

related phrase in descending order (of sth.); descend to/from/into

Example 1 Our plane started to descend.

Example 2 I heard his footsteps descending the stairs.

⑨ **alleviate** [ə'liːvɪeɪt] ***vt.*** **(alleviated/alleviated/alleviating)**

If you alleviate pain, suffering, or an unpleasant condition, you make it less intense or severe.

synonym ease; lessen; assuage; improve; lighten

antonym aggravate

word family alleviative; alleviation; alleviator
related phrase alleviate poverty/problem/shortage/hunger/stress

Example 1 A new medicine has been developed to alleviate the symptoms of flu.

Example 2 He or she should be able to answer all your questions and alleviate many of your fears.

⑩ **substantiate** [səb'stænʃɪeɪt] ***vt.*** **(substantiated/substantiated/substantiating)**

To substantiate a statement or a story means to supply evidence which proves that it is true.

synonym validate; authenticate; verify; corroborate; prove
word family substantive; substantiated; substantiation; substantiality
related phrase substantiate claim/theory

Example 1 There is little scientific evidence to substantiate the claims.

Example 2 The facts substantiated your statement.

⑪ **pinpoint** ['pɪnpɔɪnt] ***vt.*** **(pinpointed/pinpointed/pinpointing)**

If you pinpoint something or its position, you discover or show exactly where it is.

synonym locate; identify; pin down
related phrase pinpoint location/source/problem

Example 1 I could pinpoint his precise location on a map.

Example 2 Rescue teams have now pinpointed the location of the ship.

⑫ **paramount** ['pærəmaʊnt] ***adj.***

Something that is paramount or of paramount importance is more important than anything else.

synonym supreme; utmost; dominant; chief; principal; important; primary; major; central; great
word family paramountcy
related phrase of paramount importance

Example 1 During a war the interests of the state are paramount, and those of the individual come last.

Example 2 Women's role as mothers is of paramount importance to society.

⑬ **intricate** ['ɪntrɪkət] ***adj.***

You use intricate to describe something that has many small parts or details.

synonym complicated; complex; involved; difficult; elaborate
antonym simple
word family intricately; intricacy
related phrase intricate system/work/structure

Example 1 They produce carpets with highly intricate patterns.

Example 2 He showed me into a lovely rose-coloured room with intricate plasterwork on the ceiling and walls.

⑭ **affirm** [ə'fɜːm] ***vt.*** **(affirmed/affirmed/affirming)**

If you affirm that something is true or that something exists, you state firmly and publicly that it is true or exists.

synonym confirm; strengthen; support; sustain; uphold
antonym weaken; refute
word family affirmable; affirmative; affirmatively; affirmation
related phrase affirm faith

Example 1 The general affirmed rumors of an attack.

Example 2 A spokesman for the company affirmed that a merger was likely.

⑮ **propel** [prə'pel] ***vt.*** **(propelled/propelled/propelling)**

To propel something in a particular direction means to cause it to move in that direction.

synonym push; drive; force; boost; thrust
word family propellant; propelling; propeller
related phrase propel yourself along/through

Example 1 The tiny rocket is attached to the spacecraft and is designed to propel it toward Mars.

Example 2 She used the sticks to propel herself along.

⑯ **divergence** [daɪ'vɜːdʒəns] ***n.***

A divergence is a difference between two or more things, attitudes, or opinions.

synonym deviation; departure; discrepancy; disagreement; separation
antonym convergence; agreement
word family divergent; diverging; divaricate; divarication
related phrase wide divergence

Example 1 There's a substantial divergence of opinion within the party.

Example 2 In case of divergence in interpretation, the English text shall prevail.

⑰ **extinguish** [ɪk'stɪŋgwɪʃ] ***vt.*** **(extinguished/extinguished/extinguishing)**

If something extinguishes a feeling or idea, it destroys it.

synonym put out; douse; quench, snuff; stub out; smother
antonym light
word family extinguisher; extinguished
related phrase extinguish hope/fire/flame/cigarette/light

Example 1 Her life was finally extinguished by the onset of liver complaint.

Example 2 The message extinguished her hopes of Richard's return.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

chronological	decipher	diagnostic	divisional	divulge
fend	hereby	hoard	illuminate	malign
molecule	nestle	nucleus	obliterate	pathway
protein	purify	reaffirm	recede	retard
rim	simplistic	standpoint	startle	therapeutic
trait	unto	vaccine	workmate	

Part 2 Text

Could Our Own Proteins Be Used to Help Us Conquer Cancer?

In 1962 someone at the Genetics Institute in Pavia, Italy, turned up the temperature in an incubator holding fruit flies. When Ferruccio Ritossa, then a young geneticist, examined the cells of these "heat shocked" flies, he noticed that their chromosomes had puffed up at discrete locations. The puffy appearance was a known sign that genes were being activated in those regions to give rise to their encoded proteins, so those sites of activity became known as the heat shock[1] loci.

The effect was reproducible but initially considered to be unique to the fruit fly. It took another 15 years before the proteins generated when these chromosome puffs appear were detected in mammals and other forms of life. In what is certainly among the most absorbing stories in contemporary biology, heat shock proteins (HSP[2]) have since been recognized as occupying a central role in all life—not just at the level of cells but of organisms and populations in their entirety.

Indeed, these ubiquitous molecules are among the most ancient survival mechanisms to have been conserved throughout evolution. They have even been shown to facilitate evolution itself. Produced in response to stressful conditions, including (but not limited to) heat, HSP help individual cells to cope by keeping cellular processes working smoothly in the face of retard. In the past decade scientists have realized that HSP are integral to our immune defenses against cancer and pathogens and might therefore prove valuable in developing a wide variety of new medicines and vaccines.

To understand simplistically how these versatile proteins can be reined therapeutically, it is helpful to look at the diverse ways they perform their nucleus jobs. Like the chaperoning of people, the work of HSP has two objectives: to prohibit undesirable interactions and to promote desirable ones.

Versatile Escorts

Proteins inside a cell often have just one or a very few correct "mates" with which they can interact effectively. The ligand has little effect on other receptor types, and the receptor is typically

activated only by its particular ligand or molecules very close to it in structure. In contrast, HSP tend to associate with a wide range of "client" proteins, allowing the HSP to perform a dizzying array of jobs.

Specific examples can proclaim just how critical these tasks are and can illustrate some of the ways that major HSP chaperones serve their clients. Hydrophobic amino acids[3] abhor water and try to get away from it by nestling inside the protein structure, whereas hydrophilic amino acids prefer to face exteriorly. Such mechanisms are not always enough to ensure proper folding, though, so HSP such as HSP60, get involved.

Arthur L. Horwich of Yale University has provided much of the current diagnostic standpoint of the HSP60 chaperone, which resembles a cage composed of multiple HSP60 molecules. Its inner rim is highly hydrophobic and therefore attracts the exposed hydrophobic amino acids of and unfolded protein to bind to it. Once such a chain is drawn into this cage, it collides with a hydrophilic interior, which the hydrophobic amino acids want to avoid at all costs, so the trapped molecules is forced to deform. This process may not happen in one go, and the cage may release and recapture the protein multiple times before the protein acquires a correctly folded conformation.

Most HSP do not enclose their substrates but rather grab them by the "elbows" to help them along. HSP70, for example, binds directly to short stretches of amino acid sequences, also known as peptides. The molecule has a peptide-binding cleft that is open when HSP70 is bound to the cellular energy source ATP, but when in the shortfall of ATP, a lidlike structure on HSP70 clamps down on the bound peptide and traps the larger protein chain in place. The ability of HSP70 to grab a variety of different peptides allows the molecule to play chaperone in many of fundamental cellular processes such as helping new amino acid chains to assume a mature conformation, facilitating the assembly of complex proteins and fending proteins from falling apart in high temperature.

Although heat shock proteins are active in cells in normal circumstances, it is easy to see how their help would be even more valuable to a cell in a difficult situation. Under emergency conditions, such extreme heat or cold, oxygen deprivation, dehydration or starvation, a cell would be struggling just to survive. Critical proteins might be descended by the harsh environment, even as the cell would try to churn out replacements. In these circumstances, heat shock proteins would alleviate the stress by rescuing essential proteins, dismantling and recycling damaged ones, and generally keeping cell operations running as smoothly as possible. Hence, when a cell is under high stress, one of its first responses will be to manufacture more of the HSP themselves, as Ritossa first witnessed 46 years ago. This important role of HSP has been well documented since its discovery. Beginning in the 1980s, however, a completely different function of HSP—just as integral to survival for complex organisms—also began to be divulged.

Antigenic Fingerprints

As a graduate student in the early 1980s at the Center for Cellular and Molecular Biology in Hyderabad, India, I became interested in a phenomenon that had been observed since the 1940s but never deciphered. Many scientists had substantiated that one can immunize rodents against pathogens. Proteins from a pathogen are recognized by the mammalian immune system as foreign, however, and that is why they act as antigens—arousing an immune response.

During my graduate and postdoctoral work, I pinpointed a protein, called gp96, which could indeed bait immune resistance unto tumors. This molecule, startlingly, turned out to be a member of the HSP90 family—many HSP proteins come in several related forms—which occurs in normal tissues as well as cancer cells. Stephen J. Ullrich and his colleagues at the National Institutes of Health independently made a similar observation two years later. The gp96 molecular found in tumors and in normal tissues were identical in their amino acid sequences, so the cancer-derived gp96 was not cancer-specific. What, then, was the basis of its ability to immunize against cancer?

The veiled answer began to emerge in 1990, when Heiichiro Udono, then a postdoctoral workmate in my laboratory at the Mount Sinai School of Medicine, and I were isolating HSP70 from tumors to test if it, too, elicited tumor immunity. We found that it could. The biggest surprise came, however, when we put the HSP70 through a final purification step called ATP[4]-affinity chromatography[5], and the molecule's very potent tumor-immunizing activity receded!

We realized immediately that exposure of HSP70 to ATP was causing HSP70 to shed material, which we determined to be peptides. The work of several research groups in the ensuing years has illuminated that HSP70 changes conformation when it binds to ATP, causing it to let go of any bound peptide. In fact, researchers learn that members of the HSP60, HSP70 and HSP90 families all regularly carry around peptides generated within cells.

This characteristic ability of certain chaperones to retain peptides representative of their cell of origin has given HSP a paramount role in one of the most fundamental processes of the immune system[6]—recognition of cancerous and virus-infected cells. Tlymphocytes recognized antigens on such cells through an intricate process known as antigen presentation. Essentially all antigens made inside cells are degraded into peptides that then associate with HSP of the HSP60, HSP70 and HSP90 families. The peptides are eventually loaded onto a special class of proteins, known as the major histocompatibility complex I (MHCI) proteins, displayed on the surface of most mammalian cells. The T cells recognize these MHC I-peptide complexes and obliterate any that signifies the cell is diseased.

It is this antigen-chaperoning property of the peptide-binding HSP that is the basis of the ability of HSP derived from tumors or pathogen-infected cells to immunize against those same tumors or intracellular pathogens. But the HSP-peptide complexes also have another critical part in the T cells' recognition of friend and foe antigens—through their interactions with different types of immune cells known as antigen-presenting cells.

Sounding the Alarm

Sentinels of the immune system, antigen-presenting cells occur in perhaps every tissue of the body, where they can "sample" their surroundings for any antigens that might be nearby. They present whatever they encounter to the T cells that will eventually home in on and attempt to destroy cancerous or infected cells.

It turns out that antigen-presenting cells carry receptors on their surface for the peptide-binding chaperones. The first such receptor was affirmed by Robert J. Binder, then a graduate student in my laboratory and currently an assistant professor at the University of Pittsburgh, as CD91. When the cells encounter as HSP-peptide complex, they internalize it through the CD91 doorway and present the HSP-chaperoned peptides to the T cells, which can then multiply and fight off the cancer or pathogen.

Beyond delivering a description of the invader to the immune system. HSP seem to sound an alarm as well. Sreyashi Basu of the University of Connecticut School of Medicine and I have shown that just exposing antigen-presenting cells to HSP70 and HSP90 family members causes the cells to undergo a hoard of divisional changes, including initiation of signals that invoke inflammation, which is part of a strong immune defense. Although HSP normally do their work inside cells, scientists have known for some time that when mammalian cells are under stress, selected HSP are released from the cells or displayed on the cell surface in small but significant quantities. Thus, the ability of HSP to activate antigen-presenting of HSP outside cells may be a mechanism to alert the immune system of danger.

I have developed a process for extracting HSP-bound peptides from the individual patient and then reintroducing them in a purified form as a vaccine that would propel the immune system to attack cells bearing those specific tumor-associated antigens. Latest studies showed that patients with melanoma who received sufficient doses of HSP-peptide-complex vaccine and whose disease was limited to the skin, lymph nodes and lungs lived significantly longer than patients who received other standard treatments, including chemotherapy.

The results were enough for the Russian government to approve the treatment, making it the first cancer vaccine to enter actual clinical use. An application for approval in Europe will be filed shortly, and an application to the U.S. Food and Drug Administration is awaiting more reaffirmed data on the patient's long-term outcomes.

Wide Influence

Amplifying the natural effect of HSP on the immune system by using them in vaccine is not the only way to employ these versatile proteins therapeutically. Suzanne L. Rutherford and Susan L. Lindquist have shown that when HSP90 functioning was suppressed in fruit flies, a large number of preexisting genetic mutations were disclosed, indicating that potentially corrosive effects were being buffered by HSP90. They argued that genetic variation that would otherwise affect the functioning of organisms exists in nature but is usually not manifested because HSP90 essentially hides the variation—an effect that fosters the quiet chronological accumulation of genetic divergence.

Lindquist and her collaborators have provided further evidence of a role for HSP90 in the rapid evolution of novel traits. As a result, she has suggested that species-specific inhibitors of HSP90 may be used as a new generation of antibiotics hereby. Similarly HSP are believed to provide buffering against the accumulating mutations that should make cancer cells less and less viable but instead seem to drive their malignancy. Because HSP90 affects a wider variety of intracellular signaling pathways than any other HSP does, loss of its function should make cancer cells more sensitive to stress and therefore more easily extinguished by chemotherapy.

(Adapted from "Could Our Own Proteins Be Used to Help Us Conquer Cancer?", https://www.scientificamerican.com/article/new-jobs-for-ancient-chaperones/, written by Pramond K. Srivastava)

Notes

① heat shock

In biochemistry, heat shock is the effect of subjecting a cell to a higher temperature than that of the ideal body temperature of the organism from which the cell line is derived. Heat shock refers to the cellular exposure to rapid changes in stressors such as temperature, toxins, oxidative stress, heavy metals, and pathogenic infections. Specifically temperature induced heat shock, even by a change of a few degrees, causes proteins to misfold, nonspecifically aggregate, and/or entangle. Other cellular damage induced by heat shock includes cytoskeleton rearrangement, changes in organelle localization, decreased ATP production, drop in cellular pH, decreased translation, and changes in RNA splicing. Introduction of heat shock to cells elicits the molecular response, the heat shock response (HSR), which repairs damages caused by stressors such as protein misfolding and protein aggregation.

② HSP

Heat shock proteins (HSP) are a family of proteins that are produced by cells in response to exposure to stressful conditions. They were first described in relation to heat shock, but are now known to also be expressed during other stresses including exposure to cold, UV light, and during wound healing or tissue remodeling. Many members of this group perform chaperone function by stabilizing new proteins to ensure correct folding or by helping to refold proteins that were damaged by the cell stress. This increase in expression is transcriptionally regulated. The dramatic upregulation of the heat shock proteins is a key part of the heat shock response and is induced primarily by heat shock factor (HSF). HSP are found in virtually all living organisms, from bacteria to humans.

Heat shock proteins are named according to their molecular weight. For example, HSP60, HSP70 and HSP90 (the most widely studied HSP) refer to families of heat shock proteins on the order of 60, 70, and 90 kilodaltons in size, respectively. The small 8-kilodalton protein ubiquitin, which marks proteins for degradation, also has features of a heat shock protein.

③ amino acids

Amino acids are organic compounds containing amine ($-NH_2$) and carboxyl ($-COOH$) functional groups, along with a side chain (R group) specific to each amino acid. The key elements of an amino acid are carbon, hydrogen, oxygen, and nitrogen, though other elements are found in the side chains of certain amino acids. About 500 amino acids are known (though only 20 appear in the genetic code) and can be classified in many ways. They can be classified according to the core structural functional groups' locations as alpha- (α-), beta- (β-), gamma- (γ-) or delta- (δ-) amino acids; other categories relate to polarity, pH level, and side chain group type (aliphatic, acyclic, aromatic, containing hydroxyl or sulfur, etc.). In the form of proteins, amino acids comprise the second-largest component (water is the largest) of human muscles, cells and other tissues. Outside proteins, amino acids perform critical roles in processes such as neurotransmitter transport and biosynthesis.

④ ATP

ATP refers to Adenosine triphosphate, coenzyme used as an energy carrier in the cells of all

known organisms; integral part of the process by which energy is moved throughout the cell.

⑤ **chromatography**

Chromatography is a laboratory technique for the separation of a mixture. The mixture is dissolved in a fluid called the mobile phase, which carries it through a structure holding another material called the stationary phase. The various constituents of the mixture travel at different speeds, causing them to separate. The separation is based on differential partitioning between the mobile and stationary phases. Subtle differences in a compound's partition coefficient result in differential retention on the stationary phase and thus changing the separation.

Chromatography may be preparative or analytical. The purpose of preparative chromatography is to separate the components of a mixture for later use, and is thus a form of purification. Analytical chromatography is done normally with smaller amounts of material and is for establishing the presence or measuring the relative proportions of analytes in a mixture. The two are not mutually exclusive.

⑥ **immune system**

The immune system is a host defense system comprising many biological structures and processes within an organism that protects against disease. To function properly, an immune system must detect a wide variety of agents, known as pathogens, from viruses to parasitic worms, and distinguish them from the organism's own healthy tissue. In many species, the immune system can be classified into subsystems such as the innate immune system versus the adaptive immune system, or humoral immunity versus cell-mediated immunity. In humans, the blood–brain barrier, blood–cerebrospinal fluid barrier, and similar fluid–brain barrier separate the peripheral immune system from the neuroimmune system, which protects the brain.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) Make a list of the world's top 10 most innovative breakthrough in health care.
2) What is the influence of HSP on the immune system?
3) What is the article mainly about?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ HSP often have just one or a very few correct "mates" with which they can interact effectively.
2) ________ The theory that when a cell is under high stress, one of its first responses will be to manufacture more of the HSP themselves was overthrown in the 1980s.

3) ________ The gp96 molecular can be found only in tumors.
4) ________ Russia is the first country to approve the usage of cancer vaccine in clinical medicine.
5) ________ Enhancing the natural effect of HSP on the immune system by using them in vaccine is one of the ways to employ these versatile proteins therapeutically.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

snowball	superstore	pendulum	retard	wreath	sac	nucleus	proclaim
mainland	intricate	hurricane	overdraft	superman	worktop	prohibit	

1) The boat was sunk by a ________.
2) The island may be reached by boat from the ________.
3) A ________ knocked his hat off.
4) Follow the signposts and you can get to the ________.
5) The ________ swings and we need to find the balance.
6) The peritoneal cavity is a closed ________.
7) Her bank warned that unless she repaid the ________ she could face legal action.
8) The film portrays Jeffson as a kind of ________.
9) The ________ is made of solid beech.
10) The Queen laid a ________ at the war memorial.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) It took another 15 years before the proteins generated when these chromosome puffs appear were detected in mammals and other forms of life.
2) Under emergency conditions, such extreme heat or cold, oxygen deprivation, dehydration or starvation, a cell would be struggling just to survive.
3) It is this antigen-chaperoning property of the peptide-binding HSP that is the basis of the ability of HSP derived from tumors or pathogen-infected cells to immunize against those same tumors or intracellular pathogens.
4) Sentinels of the immune system, antigen-presenting cells occur in perhaps every tissue of the body, where they can "sample" their surroundings for any antigens that might be nearby.
5) Although HSP normally do their work inside cells, scientists have known for some time that when mammalian cells are under stress, selected HSP are released from the cells or displayed on the cell surface in small but significant quantities.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

backlog	cordon	karaoke	replenish
slog	squadron	tenor	warehousing

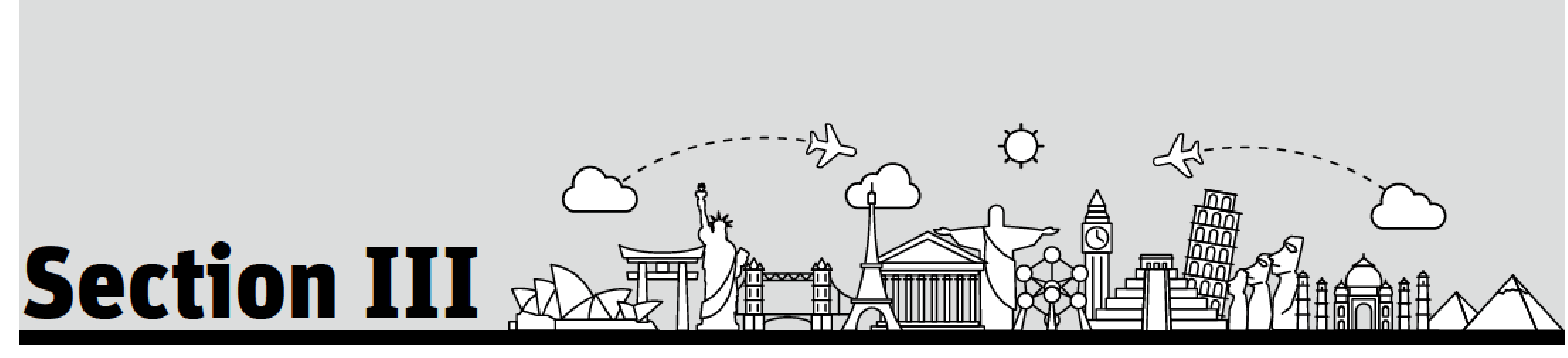
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) shire	**a.** extramarital sex that is considered objectionable on social, religious, moral, or legal grounds
2) granule	**b.** a sport that involves hitting plastic or wooden balls with a mallet through hoops embedded in a grass playing court
3) capillary	**c.** area occupied by, or in the neighbourhood of maritime docks
4) kiln	**d.** a type of fiber-reinforced plastic where the reinforcement fiber is specifically glass fiber
5) flint	**e.** a hard, sedimentary cryptocrystalline form of the mineral quartz, categorized as a variety of chert
6) quilt	**f.** a multi-layered textile, traditionally composed of three layers of fiber
7) fibreglass	**g.** a thermally insulated chamber that produces temperature sufficient to complete some processes, such as hardening, or chemical changes
8) adultery	**h.** a traditional term for a division of land, found in the United Kingdom and some other English-speaking countries
9) dockland	**i.** the smallest of a body's blood vessels that make up the microcirculation
10) croquet	**j.** a large particle or grain

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. tablespoon	B. cuisine	C. dishwasher	D. prose
2)	( )	A. tariff	B. ledger	C. dew	D. affidavit
3)	( )	A. font	B. sperm	C. nipple	D. penis
4)	( )	A. prospectus	B. proviso	C. subcontract	D. tassel



Section III

Text B: Drugs from the Sea

Part 1 Power of Words

Core Words

① **wham** [wæm] ***int./vt.*** **(whammed/whammed/whamming)**

You use wham to indicate that something happens suddenly or forcefully; to hit hard

synonym	whack
word family	whammy

Example 1 Life is going along nicely and then, wham, you lose your job.

Example 2 He whammed his fist against the desk.

② **shaggy** ['ʃægɪ] ***adj.***

Shaggy hair or fur is long and messy.

synonym	fluffy; towheaded; hairy; unkempt; disheveled; bushy
antonym	neat; tidy
word family	shag; shagginess; shagged

Example 1 Tim, who still has longish, shaggy hair, used to turn up at official dinners in the jeans and T-shirt.

Example 2 He bent his great, shaggy head over Harry and gave him what must have been a very scratchy, whiskery kiss.

③ **erupt** [ɪ'rʌpt] ***vi.*** **(erupted/erupted/erupting)**

When a volcano erupts, it throws out a lot of hot, melted rock called lava, as well as ash and steam; If violence or fighting erupts, it suddenly begins or gets worse in an unexpected, violent way.

synonym	explode; blow up; break out; flare up; go off
antonym	subside; hold back
word family	eruptive; eruption

Example 1 The volcano erupted in 1980, devastating a large area of Washington State.

Example 2 Heavy fighting erupted there today after a two-day cease-fire.

④ **strangle** ['stræŋgl] ***vt.*** **(strangled/strangled/strangling)**

To strangle someone means to kill them by squeezing their throat tightly so that they cannot breathe; To strangle something means to prevent it from succeeding or developing.

synonym choke; throttle; garrote; asphyxiate
word family strangled; strangulate; strangler

Example 1 He tried to strangle a border policeman and steal his gun.

Example 2 The country's economic plight is strangling its scientific institutions.

⑤ grubby ['grʌbɪ] *adj.*

A grubby person or object is rather dirty.

synonym dirty; grimy; soiled; filthy; mucky
antonym clean; honourable
word family grub
related phrase grubby hands/paws/mitts

Example 1 His white coat was grubby and stained.

Example 2 She wore a pair of grubby sneakers, dark sporty slacks and a checkered shirt.

⑥ curtail [kɜː'teɪl] *vt.* (curtailed/curtailed/curtailing)

If you curtail something, you reduce or limit it.

synonym limit; restrain; restrict; hold back; cut back
antonym extend
word family curtailment
related phrase curtail growth; severely/drastically curtail

Example 1 NATO plans to curtail the number of troops being sent to the region.

Example 2 The new law will curtail police powers.

⑦ vouch [vaʊtʃ] *vi.* (vouched/vouched/vouching)

to provide supporting evidence for the quality of somebody or something

synonym assure; prove; demonstrate; guarantee; argue
word family voucher; vouchee
related phrase vouch for sb./sth.

Example 1 I've read this report carefully and I can vouch for its truthfulness.

Example 2 "Where were you on the night of the murder?" "In bed with flu. My wife can vouch for that."

⑧ allay [ə'leɪ] *vt.* (allayed/allayed/allaying)

If you allay someone's fears or doubts, you stop them feeling afraid or doubtful.

synonym comfort; calm; moderate; compose; dispel; alleviate; assuage; relieve
antonym stimulate
related phrase allay suspicion/anxiety

Example 1 He did what he could to allay his wife's myriad fears.

Example 2 The president made a statement to allay public anxiety.

⑨ **frontier** ['frʌntɪə] ***n.***

The frontiers of something, especially knowledge, are the limits to which it extends.

synonym	boundary; border; limit; edge; border line
word family	frontiersman
related phrase	on/at the frontier; the frontiers of knowledge/physics; push back the frontiers; open/cross frontier

Example 1 His research pushed back the frontiers of science.

Example 2 It wasn't difficult then to cross the frontier.

⑩ **strenuous** ['strenjuəs] ***adj.***

A strenuous activity or action involves a lot of energy or effort.

synonym	intense; tough; rough; taxing; tiring; arduous; exhausting; demanding
antonym	light; half-hearted
word family	strenuously; strenuosity
related phrase	strenuous exercise/life

Example 1 Avoid strenuous exercise in the evening.

Example 2 Strenuous efforts had been made to improve conditions in the jail.

⑪ **nourish** ['nʌrɪʃ] ***vt.*** **(nourished/nourished/nourishing)**

To nourish a person, animal, or plant means to provide them with the food that is necessary for life, growth, and good health.

synonym	feed; nurture; sustain; suckle
word family	nourishing; nourishment

Example 1 The food she eats nourishes both her and the baby.

Example 2 The cream contains vitamin A to nourish the skin.

⑫ **ecological** [ˌiːkə'lɒdʒɪkl] ***adj.***

Ecological means involved with or concerning ecology.

synonym	environmental; natural; biological; organic
word family	ecologic; ecologically; ecology; ecologist
related phrase	ecological environment/system/balance/engineering

Example 1 Large dams have harmed Siberia's delicate ecological balance.

Example 2 Ecological balance would be broken by the fact that rabbits overabound on the grasslands.

⑬ **ordeal** [ɔː'diːl] ***n.***

If you describe an experience or situation as an ordeal, you think it is difficult and stressful.

synonym	illusage; torture; trial; torment; suffering; tribulation
related phrase	terrible/long/painful ordeal; undergo/face the ordeal

Example 1 He was beginning to wonder if he would survive the ordeal.

Example 2 Teresa had a transplant in 1989 and was just recovering from that ordeal when she suffered a brain hemorrhage.

⑭ **chuffed** [tʃʌft] ***adj.***

pleased or delighted

synonym	happy; pleased; glad; delighted; cheerful; content; satisfied
word family	chuff
related phrase	chuffed about sth.

Example 1 He's really chuffed about passing the exam.

Example 2 "I'm so chuffed," she giggles. "I'm over the moon."

⑮ **daunting** ['dɔːntɪŋ] ***adj.***

Something that is daunting makes you feel slightly afraid or worried about dealing with it.

synonym	dispiriting; intimidating; unnerving; discouraging; scary; frightening
antonym	heartening
word family	dauntless; dauntingly; daunt
related phrase	daunting task/prospect/challenge

Example 1 He and his wife Jane were faced with the daunting task of restoring the gardens to their former splendour.

Example 2 The trip seemed rather daunting for a young girl.

⑯ **nurture** ['nɜːtʃə] ***vt.*** **(nurtured/nurtured/nurturing)**

If you nurture something such as a young child or a young plant, you care for it while it is growing and developing.

synonym	encourage; raise; heart; mother; foster; care for; look after; take care of; rear
word family	nurturant; nursing; nurturance
related phrase	nature and nurture

Example 1 Parents want to know the best way to nurture and raise their child to adulthood.

Example 2 These are the plants nurtured in the greenhouse.

⑰ **annex** [ə'neks] ***vt.*** **(annexed/annexed/annexing)**

If a country annexes another country or an area of land, it seizes it and takes control of it.

synonym	acquire; take possession of; seize; take over; capture; invade
antonym	surrender
word family	annexation

Example 1 Rome annexed the Nabatean kingdom in AD 106.

Example 2 The Baltic republics were annexed by the Soviet Union in 1940.

⑱ **wholehearted** [ˌhəʊl'hɑːtɪd] adj.

If you support or agree to something in a wholehearted way, you support or agree to it enthusiastically and completely.

synonym	absorbed; unbendable; enthusiastic; passionate; unreserved; total
antonym	grudging
word family	wholeheartedly; wholeheartedness
related phrase	wholehearted support

Example 1 The governor deserves our wholehearted support for having taken a step in this direction.

Example 2 Without that wholehearted dedication, he might not have even continued his football career.

⑲ **cradle** ['kreɪdl] ***n.***

A cradle is a baby's bed with high sides; Cradles often have curved bases so that they rock from side to side.

synonym	bassinet; berceau; cot
related phrase	the cradle of sth.; from the cradle to the grave

Example 1 She rocked the cradle to quieten the child.

Example 2 Athens is often regarded as the cradle of democracy.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

afloat	beaker	breeze	brittle	burrow
cascade	flask	leukaemia	mush	napkin
notebook	omelette	pasty	patent	pip
Santa	scouse	seagull	spew	squirt
sterilise	toiletry	toothpaste	trough	yeast

Part 2 Text

Drugs from the Sea

There's only one place left to find the next wave of supermedicines. Fortunately, it's where we should have been looking all along.

Outside the Scripps Institution of Oceanography[1] in La Jolla, California, the sights, sounds, and smells are all of a seaside paradise—salty breezes, crashing blue green waves, picturesque piers, even people fighting seagulls from their burgers as the wind whams napkins away. Inside, in biologist William Fenical's lab, it's good-bye to the sea's charms and hello to the smelly and slimy,

the creepy and crawly, the disgusting and fascinating world of creatures annexed from that ocean outside, ground up, and thrown at every frightening disease he can think of.

This is the medicine chest of the next millennium—wavering mounds of agar-filled dishes smothered with fuzzy greenish growths, flasks full of brown nutrient broth layered with gray mold, beakers sporting pale, shaggy eruptions like omelettes cooking in hell's kitchen. What's brewing in these potent pots? Scouse of bugs—fungi and bacteria that once lived in ocean sediments, rotting wood afloat, weeds, coral, sponges, and grasses. Although unappealing, any one of these containers might harbor a brand-new kick-ass cancer drug or a compound to wipe out some of the scariest viruses known to humankind.

Fenical's quest may be critical to the future of medicine. We need new drugs. The glory days of antibiotics are over. Bacterium after bacterium is gaining resistance to our arsenal. Doctors are desperate for compounds to attack cancer, Alzheimer's[2], AIDS, and a long list of other diseases for which there are limited treatments and no cures. Since that momentous day in 1928 when Alexander Fleming first noticed that a common mold blown in through an open window strangled staphylococcus bacteria from growing in a petri dish—his discovery of penicillin—researchers have been looking in increasingly exotic locations for the next strain of antibiotics. The search has intensified in rather grubby places, like landfills, septic tanks, swamps, chemical dumps, and trash piles.

But the returns are curtailing fast. "In the old days you could wander around a cornfield or up in a forest, take little dirt samples, bring them back to the lab—and what do you know? You'd found microorganisms that produce streptomycin, or actinomycin, or vancomycin," says Fenical, who is the director of the Scripps Center for Marine Biotechnology and Biomedicine. "Today when you do that you find streptomycin, actinomycin, or vancomycin—the same things. Of everything you find, 98 percent turns out to be something you've found before. It's costly; it's inefficient. And when you look at a graph and you see disease resistance going up and drug discovery going down, it's also downright frightening."

Fenical's lab of weird hybrids may vouch for his conviction that drug hunters need to look in new places. His answer is surprisingly simple: search the sea. Since the 1980s he has been plunging into the ocean to find the next wave of medicines. Already he and his colleagues have dredged up some promising candidates with wholehearted effort: chemicals that allay swelling, from lovely tropical organisms called sea feathers; a compound from a bulbous yellow soft coral that disrupts cell division in cancer cells, like taxol, the breast cancer drug derived from yew trees; and virus-killing proteins from ocean molds that live in sea grasses.

Fenical is not alone in this effort. Just a few doors down from his lab, chemist John Faulkner has been in the business even longer, dragging molecules from sponges that might fight cancer, kill viruses, or help scientists better understand how cells in our bodies grow and divide. In labs around the world, the search on this new frontier has intensified. Today the list of novel potential anticancer drugs at the National Cancer Institute's Natural Products Branch includes more candidates from the ocean than from the land. Several promising drugs from the sea that might be used to treat leukaemia—including one from a creature called Bugula, which clings to the bottoms of boats—are involved in human trials.

"The ocean, the cradle of life, is by far the major habitat on the planet—it's 70 percent of Earth's

surface," explains Fenical. "It's teeming with unique organisms. More than half the organisms in the ocean don't even occur on land."

That's the good news. The bad news is that it's difficult to know just where to look. When it comes to marine life, the rich history of ethnomedicine provides hardly any clues. There's precious little romance, either. Finding new compounds is a strenuous process of trial and error, of collect, grind, and test. Still, Fenical and his colleagues have come up with strategies to narrow their search.

The first strategy is to go to a place where life is diverse and concentrated such as a reef in the Caribbean. An environment which nourishes sea life is more likely to yield varied specimens. The next step is to try to gather what hasn't been studied before. "Don't even bother with this one," says grad student Helene Vervoort, pointing to a picture of a strange, spreading green blob—a sea squirt more properly called Lissoclinum bistratum. She recalls pulling it up the first time she dove, only to be greeted back on the boat with "God, that green thing again!"

Hard corals aren't much use, either. Even if they weren't slow-growing and often off-limits because of environmental laws, they're well protected by virtue of their hardness. And hardness isn't the kind of defense researchers are looking for. They want to burrow creatures that use chemicals—not armor—to defend themselves. "We pay a lot of attention to ecological study," says Vervoort. "We might say, 'Well, this one's interesting—there's no bacteria or algae growing on it, no other organisms settling on it—that thing must be producing something to keep itself clean.' Or we might spot an animal that looks brittle, and you would think it would be a good source of food for fish, yet it's not being eaten."

Fenical suspects that creatures loaded with biologically active molecules—the kind that they'd need to defend themselves chemically—could be the richest sources for all manner of drugs, many with unpredictable uses. Take the strange case of a glorious feathery sea fan called pseudopterogorgia elisabethae. (While this creature looks great underwater, when dried it looks more like worn-out pink rubber bands.) "If you put a bit of tuna out on the reef, fish come from everywhere, and it's gone," says Fenical. "But if I grind up this animal and mix in some extract with the tuna, the fish will come up, take one bite, and go 'Yuck!' No way will they eat it."

Part of the sea fan's chemical arsenal, it turns out, is a family of molecules called pseudopterosins, discovered by Fenical and Bob Jacobs, a pharmacologist at the University of California at Santa Barbara. Pseudopterosins do more than make fish want to spew. In people, they soothe swelling caused by sunburn or chemical irritants. They do so by kerbing a key enzyme involved in inflammation, and they do it with more clout than does hydrocortisone. Psoriasis, sunburn, and arthritis all involve inflammation, and one or more of the pseudopterosins might one day be the drug of choice to treat these ordeals. A biotech company based in La Jolla, Nereus Pharmaceuticals, has a license from Fenical and Jacobs—who hold the patent on pseudopterosin drugs—to investigate their power.

Fenical, meanwhile, reckons that a sea fan extract might be great as an additive to toothpaste or for soothing inflamed gums. The extract is already being added to cosmetics or toiletry products. The label of Estee Lauder[3]'s Resilience face cream lists P. elisabethae as an active ingredient, an addition that makes some sense: exposure to the sun triggers an inflammatory cascade in the skin, and if the extract sterilises to limit the inflammation, it might also limit sun damage.

Of course, the hope is to hit the jackpot with far stronger drugs. Grad student Akkharawit

Kanjana-Opas, who has come from Thailand to study marine microbes with Fenical, shows how he goes about screening for medicinal potency. In his hand he holds a vial with a trace of oily green pasty substance, all that remains of liters and liters of fungus mush cryptically labeled CNK827, just one of 3,000 samples of ocean fungi he has screened. Thousands more will follow.

On his desk, next to a notebook neatly labeled "Marine Fungi Isolated from Mangrove Samples", sits a square dish filled with 96 troughs in 12 tidy rows. In each trough, Kanjana-Opas pipettes a droplet of Candida albicans, a disease-causing yeast. Then in goes a droplet of a pretty dye called alamar blue. If the yeast cells start to grow, the liquid will turn red.

Next comes an extract, in this case a fungus dredged from sediments in a swampy coastal mangrove forest. A sample goes into the first row. Into the seven other rows go increasingly more diluted samples of the same brew. When all the troughs are filled, the plate is put in the incubator overnight. By morning, Kanjana-Opas will know whether any of his samples show promise as killers. Most of the troughs will be pink, indicating the extract hasn't done much. Promising candidates will be blue, showing that they killed off the yeast in a reasonably diluted concentration.

The same method is used to screen for compounds that might work on cancer cells or herpes.

If a promising candidate turns up, there are many more steps. In the case of a potential cancer killer, researchers test the drug against a set of different cell lines developed by the National Cancer Institute and derived from colon cancers, breast cancers, leukemias, and others. The trick is to ferret out drugs that kill a range of cancer cells but leave healthy cells unharmed. Next, the compound must be purified, its molecular structure must be determined, and either a drug company or the National Cancer Institute has to decide to fund testing on animals. Finally, the drug must be tested on people. At any stage, testing may be dropped, and for reasons as simple as the drug's being either too toxic or too weak.

Although that outcome is common in the drug development business, Fenical is chuffed and excited about a substance he discovered several years ago, called eleutherobin, in a remote shallow sea off the coast of Australia. It comes from a mottled yellow pickle-shaped soft coral. Eleutherobin stops malignant tumors from growing in much the same way taxol does, by binding to a protein called tubulin and disrupting cell division. Several other compounds under development show similar behavior, including one extracted from a sponge and one from a Mediterranean coral.

The continuing nemesis of experimenting with sea drugs is supply—getting enough material to test, let alone produce, a drug. In the case of eleutherobin, researchers got lucky. In 1997 a group headed by chemist K. C. Nicolaou at the Scripps Research Institute managed to make the drug in the lab, using cheap starting materials: cardamom and dill.

In many cases, it's simply too hard to make a drug from scratch. The chemistry is too complicated. What then? Microbes can be grown in vats if researchers can figure out what to feed them, but other substances can prove more daunting to reproduce. When researchers became interested in halichondrin B, a promising anticancer chemical from a sponge fondly known as "yellow slimy", they had to collect a whole metric ton of sponges to derive 300 milligrams of drug—the amount needed to begin preliminary trials. They'd never have been able to do it if the National Cancer Institute hadn't put out a "Help! Where can we find more yellow slimy?" call to marine biologists. Word came back that the sponge thrives off the coast of New Zealand. Now researchers are trying to nurture the plant in Wellington Harbor.

Another creature, called Bugula (the boat clinger), is also under cultivation. The organism grows in shallow water almost anywhere, yet only three known populations of Bugula actually make bryostatin 1, a potent drug that's involved in dozens of clinical trials as a treatment for everything from leukemia to kidney cancer. Bugula can grow in vats on land and in the ocean on wire mesh. Despite the recent progress, no marine drug has reached the pharmacy shelf. That, however, is no surprise. It took more than two decades, from gathering crunched-up Pacific yew bark to FDA approval for treating breast and ovarian cancer, for taxol to make it to market. And Fenical is not discouraged. In fact, he is passionate about the possibilities: "If we need new drugs, where are we going to go? Space? No." He pauses and waves his hand expansively out the window toward the wide blue Pacific. "It's sitting right there. It's diverse as hell. And it's waiting for us."

(Adapted from "Drugs from the Sea", http://discovermagazine.com/1999/mar/drugsfromthesea 1602, written by Rosie Mestel)

Notes

① Scripps Institution of Oceanography

The Scripps Institution of Oceanography (sometimes referred to as SIO, Scripps Oceanography, or Scripps) in San Diego, California, founded in 1903, is one of the oldest and largest centers for ocean and Earth science research, public service, undergraduate and graduate training in the world. Hundreds of ocean and Earth scientists conduct research with the aid of oceanographic research vessels and shorebased laboratories. Its Old Scripps Building is a U.S. national historic landmark. SIO is a department of the University of California, San Diego. The public explorations center of the institution is the Birch Aquarium at Scripps. Since becoming part of the University of California in 1912, the institution has expanded its scope to include studies of the physics, chemistry, geology, biology, and climate of the Earth.

② Alzheimer's

Alzheimer's disease (AD), also referred to simply as Alzheimer's, is a chronic neurodegenerative disease that usually starts slowly and worsens over time. It is the cause of 60% to 70% of cases of dementia. The most common early symptom is difficulty in remembering recent events (short-term memory loss). As the disease advances, symptoms can include problems with language, disorientation (including easily getting lost), mood swings, loss of motivation, not managing self care, and behavioural issues. As a person's condition declines, they often withdraw from family and society. Gradually, bodily functions are lost, ultimately leading to death. Although the speed of progression can vary, the average life expectancy following the diagnosis is three to nine years.

The cause of Alzheimer's disease is poorly understood. About 70% of the risk is believed to be genetic with many genes usually involved. Other risk factors include a history of head injuries, depression, or hypertension. The disease process is associated with plaques and tangles in the brain. A probable diagnosis is based on the history of the illness and cognitive testing with medical imaging and blood tests to rule out other possible causes. Initial symptoms are often mistaken for normal ageing. Examination of brain tissue is needed for a definite diagnosis. Mental and physical exercise, and avoiding obesity may decrease the risk of AD; however, evidence to support these recommendations is not strong. There are no

medications or supplements that decrease risk.

No treatments stop or reverse its progression, though some may temporarily improve symptoms. Affected people increasingly rely on others for assistance, often placing a burden on the caregiver; the pressures can include social, psychological, physical, and economic elements. Exercise programmes may be beneficial with respect to activities of daily living and can potentially improve outcomes. Treatment of behavioural problems or psychosis due to dementia with antipsychotics is common, but not usually recommended, as there is little benefit with an increased risk of early death.

In 2015, there were approximately 29.8 million people worldwide with AD. It most often begins in people over 65 years of age, although 4% to 5% of cases are early-onset Alzheimer's which begin before this. It affects about 6% of people 65 years and older. In 2015, dementia resulted in about 1.9 million deaths. It was first described by, and later named after, German psychiatrist and pathologist Alois Alzheimer in 1906. In developed countries, AD is one of the most financially costly diseases.

③ Estee Lauder

Estee Lauder (July 1, 1908–April 24, 2004) was an American businessperson. She co-founded with her husband, Joseph Lauter (later Lauder), her eponymous cosmetics company. The company is an American manufacturer and marketer of prestige skincare, makeup, fragrance and haircare products which owns a diverse portfolio of brands, distributed internationally through retail channels and digital commerce, and has its headquarters in Midtown Manhattan, New York City. Lauder was the only woman on *Time* magazine's 1998 list of the 20 most influential business geniuses of the 20th century.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) Can we yield drugs from marine resources?
2) What is the future of medicine?
3) What is the writer's aim at his research?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ It is Alexander Fleming who discovered penicillin in 1928.
2) ________ According to Fenical, drug hunters need to look in new places to find the next wave of drugs—the ocean.
3) ________ Several promising drugs from the sea that might be used to treat leukaemia—including sea feathers; a compound from a bulbous yellow soft coral.
4) ________ The first strategy of searching medicines in the oceans is to go to a place where life is diverse and concentrated.

5) ________ Hard corals, the kind that they can defend themselves, could be the richest sources for all manner of drugs.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

nourish	ordeal	daunting	vouch	cradle	riddle	snigger	siege
falsify	budge	levy	salute	ecstasy	notorious	mortify	

1) And despite a tax hike, the company refuses to ________, claiming that it will not change its recipe.
2) He and his wife Jane were faced with the ________ task of restoring the gardens to their former splendour.
3) The new ________ on plastic carrier bags has come into effect in Northern Ireland.
4) We ________ all those who assisted in responding so quickly and professionally to this tragedy.
5) The aim is that we get to chart our own path from the ________ to the inevitable grave.
6) That is an area ________ for drugs, crime and violence.
7) The charges against him include fraud, bribery, and ________ business records.
8) Plankton found in the estuaries ________ organisms all the way up the food chain.
9) I was somewhat ________ to be told that I was too old to join.
10) I've read this report carefully and I can ________ for its truthfulness.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Inside, in biologist William Fenical's lab, it's good-bye to the sea's charms and hello to the smelly and slimy, the creepy and crawly, the disgusting and fascinating world of creatures annexed from that ocean outside, ground up, and thrown at every frightening disease he can think of.
2) Although unappealing, any one of these containers might harbor a brand-new kick-ass cancer drug or a compound to wipe out some of the scariest viruses known to humankind.
3) Since the 1980s he has been plunging into the ocean to find the next wave of medicines. Already he and his colleagues have dredged up some promising candidates with wholehearted effort ...
4) "The ocean, the cradle of life, is by far the major habitat on the planet—it's 70 percent of Earth's surface," explains Fenical. "It's teeming with unique organisms. More than half the organisms in the ocean don't even occur on land."
5) In many cases, it's simply too hard to make a drug from scratch. The chemistry is too complicated. What then? Microbes can be grown in vats if researchers can figure out what to feed them, but other substances can prove more daunting to reproduce.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

bedtime	tattoo	bulldoze	babysit	grieve
crouch	devious	surgical	hijack	shopkeeper

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

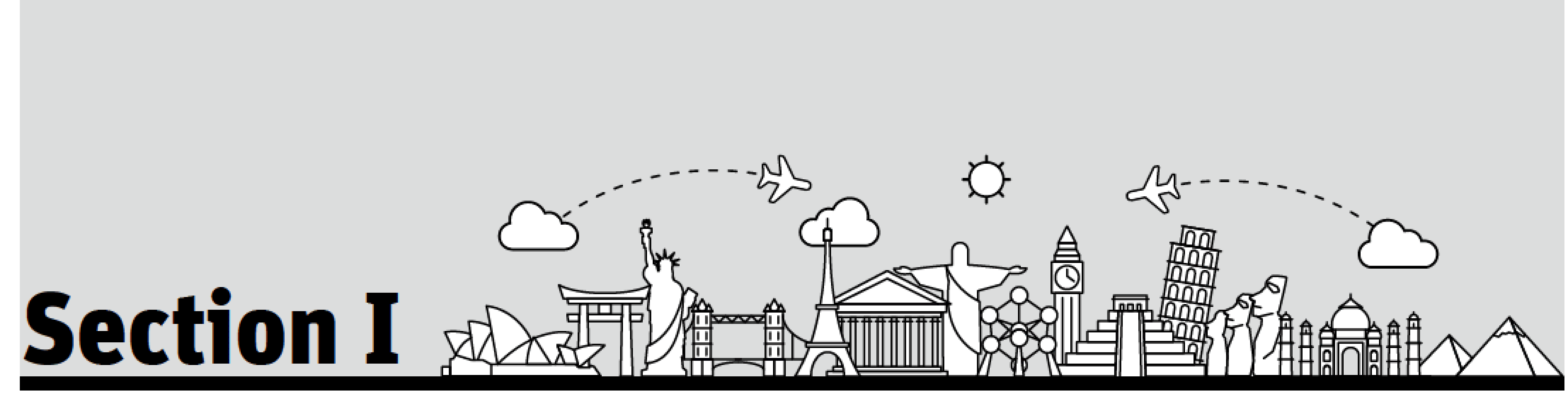
1) strangle	**a.** to crush or twist very forcefully, so that it is difficult to see what the original shape was
2) strenuous	**b.** the stage in someone's life when their body starts to become physically mature
3) kerb	**c.** to kill by squeezing the throat so as to cut off the air
4) burrow	**d.** the act of sending an accused person back into custody to await trial (or the continuation of the trial)
5) brittle	**e.** the raised edge of a sidewalk which separates it from the road
6) checklist	**f.** a vertical spar for supporting sails
7) greengrocer	**g.** hard but easily broken
8) brothel	**h.** a hole in the ground made by an animal for shelter
9) liaison	**i.** a shopkeeper who sells fruit and vegetables
10) mangle	**j.** a building where prostitutes are available
11) mast	**k.** a formal ball held for a school class toward the end of the academic year
12) puberty	**l.** the froth produced by soaps or detergents
13) remand	**m.** a channel for communication between groups
14) lather	**n.** characterized by or performed with much energy or force
15) prom	**o.** a list of items (names or tasks, etc.) to be checked or consulted

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. budgie	B. thrush	C. nightingale	D. prawn
2)	( )	A. necklace	B. accessory	C. brooch	D. bracelet
3)	( )	A. bureaucracy	B. beech	C. maple	D. hardwood
4)	( )	A. artillery	B. admiral	C. brigadier	D. lieutenant
5)	( )	A. dagger	B. armament	C. revolver	D. pistol



Unit 6
Nature



Section I
Focus on Purpose and Tone

An author's purpose is simply his or her reason for writing, while tone refers to the author's use of words and writing style to convey his or her attitude towards a topic. Tone and purpose go together. This part examines the writer's purpose more closely so readers can determine when an informative purpose has crossed the line into persuasion.

Why Think About Purpose?

We tend to assume that certain written materials—textbooks, news reports, reference works, and manuals—have a purely informative purpose. They are there to provide information without expressing judgment or opinion. Thus, we often read such materials as if we were absorbing purely factual information, agreed upon and undisputed by all sane people.

Yet even authors whose primary intention is to inform can occasionally let personal bias creep in. If you start to see signs of persuasive writing in an essentially informative text, take note. The material you are reading may not be untouched by bias. There may very well be other ways to think about the topic or issue, different from the one the author presents.

For that matter, knowing from the very beginning that a writer's purpose is persuasive is equally important. Writers intent on persuasion are biased in favor of the idea or action they support. There is nothing wrong with that. The danger lies in their letting personal bias overwhelm their judgment. To really evaluate an author's position, you need to be alert to logic or language suggesting that the author's bias might have clouded his or her ability to think clearly or treat opposing points of view fairly.

Purpose

Authors write with a reason in mind, and you can better evaluate their ideas by determining what that reason is. The author's reason for writing is also called the **purpose** of a selection. Three common purposes are as follows:

- To inform—to give information about a subject. Authors with this purpose wish to provide facts that will explain or teach something to readers.

For example, the author of an informative paragraph about sandwiches might begin with, "Eating food between two slice of bread—a sandwich—is a practice that has its origins in eighteenth-century England."

- To persuade—to convince the reader to agree with the author's point of view on a subject. Authors with this purpose may give facts, but their main goal is to argue or prove a point to readers.

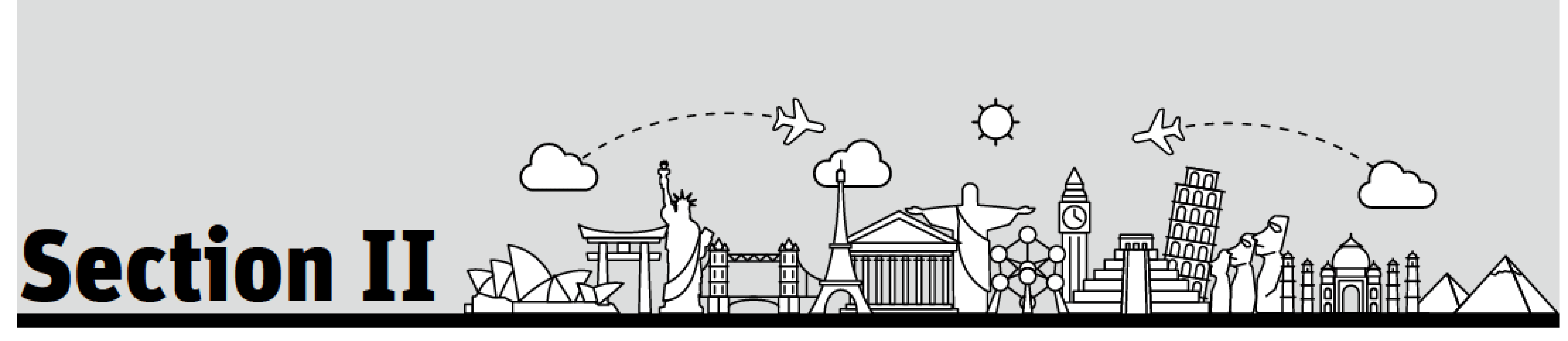
The author of a persuasive paragraph about sandwiches might begin with, "There are good reasons why every sandwich should be made with whole grain bread."

- To entertain—to amuse and delight; to appeal to the reader's senses and imagination. Authors with this purpose entertain in various ways, through fiction and nonfiction.

The author of an entertaining paragraph about sandwiches might begin with, "What I wanted was a midnight snack, but what I got was better—the biggest, most magical sandwich in the entire world."

Tone

A writer's tone reveals the attitude that he or she has toward a subject. Tone is expressed through the words and details the writer selects. Just as a speaker's voice can project a range of feelings, a writer's voice can project one or more tones, or feelings: anger, sympathy, hopefulness, sadness, respect, dislike, and so on. Understanding tone is, then, an important part of understanding what an author has written.



Section II

Text A: Naturalists, Collectors, and Biodiversity

Part 1 Power of Words

Core Words

① **fraught** [frɔːt] ***adj.***

full of anxiety or worry; full of problems

synonym	afraid; worried; packed; filled; full; beset; charged; laden
antonym	free; calm
related phrase	fraught with problems/difficulties/danger

Example 1 Julie sounded rather fraught.

Example 2 The earliest operations employing this technique were fraught with dangers.

② **premature** ['premətʃə] ***adj.***

Something that is premature happens earlier than usual or earlier than people expect.

synonym	raw; immature; early; untimely; hasty
antonym	overdue
word family	prematurely
related phrase	premature delivery/death/baby

Example 1 Accidents are still the number one cause of premature death for Americans.

Example 2 His career was brought to a premature end by a succession of knee injuries.

③ **destiny** ['destənɪ] ***n.*** **(*pl.* destinies)**

A person's destiny is everything that happens to them during their life, including what will happen in the future, especially when it is considered to be controlled by someone or something else.

synonym	fate; fortune; lot; luck; providence
word family	destine; destined
related phrase	Manifest Destiny

Example 1 We are masters of our own destiny.

Example 2 Nancy wondered whether it was her destiny to live in England and marry Melvyn.

④ **uproot** [ˌʌp'ruːt] ***vt.*** **(uprooted/uprooted/uprooting)**

If someone uproots a tree or plant, or if the wind uproots it, it is pulled out of the ground.

synonym	pull up; deracinate; dig up; rip up; displace

antonym plant; settle

Example 1 They had been forced to uproot their vines and plant wheat.

Example 2 The fallen trees have been uprooted by the storm.

⑤ **glean** [gliːn] ***vt.*** **(gleaned/gleaned/gleaning)**

If you glean something such as information or knowledge, you learn or collect it slowly and patiently, and perhaps indirectly.

synonym gather in; collect
word family gleaner
related phrase glean sth. from sb./sth.

Example 1 At present we're gleaning information from all sources.

Example 2 Take a look at some of these to see if you can glean good practice, or any useful warnings.

⑥ **empirical** [ɪm'pɪrɪkl] ***adj.***

Empirical evidence or study relies on practical experience rather than theories.

synonym experiential; experimental; firsthand; practical
antonym theoretical
word family empirically
related phrase empirical study/analysis/research/evidence

Example 1 There is no empirical evidence to support his thesis.

Example 2 This paper is trying to demonstrate this proposition formally and add some empirical evidence to it.

⑦ **dodge** [dɒdʒ] ***vt.*** **(dodged/dodged/dodging)**

to deliberately avoid discussing something or doing something

synonym avoid; shun; escape; stay away from; evade; duck; move away
word family dodgy; dodger
related phrase dodge an issue/question

Example 1 Some will tackle questions head on, while others will dodge them entirely.

Example 2 He boasts of dodging military service by feigning illness.

⑧ **contempt** [kən'tempt] ***n.***

If you have contempt for someone or something, you have no respect for them or think that they are unimportant.

synonym despite; defiance; disdain; derision
word family contemptible
related phrase show/deserve/express contempt; utter/deep contempt; with contempt; in contempt of; beneath contempt

Example 1 He has contempt for those beyond his immediate family circle.

Example 2 How could she have loved a man who so clearly held her in contempt?

⑨ **replicate** ['replɪkeɪt] ***vt.*** **(replicated/replicated/replicating)**

If you replicate someone's experiment, work, or research, you do it yourself in exactly the same way.

synonym	duplicate; repeat; copy; imitate; reproduce
word family	replication; replica

Example 1 He invited her to his laboratory to see if she could replicate the experiment.

Example 2 There is a need for further research to replicate these findings.

⑩ **improvise** ['ɪmprəvaɪz] ***vi.*** **(improvised/improvised/improvising)**

Do something without any preparation, because you are forced to do this by unexpected events.

synonym	ad-lib; extemporize; wing it
word family	improvised; improvisation

Example 1 I forgot to bring my notes, so I had to improvise.

Example 2 The things that make people human—the ability to imagine, feel, learn, create, adapt, improvise, have intuition, act spontaneously—are the comparative advantages they have over machines.

⑪ **chaotic** [keɪ'ɒtɪk] ***adj.***

Something that is chaotic is in a state of complete disorder and confusion.

synonym	disordered; muddled; confused; messy
antonym	orderly
word family	chaotically
related phrase	chaotic world/organization/traffic

Example 1 He assures the press that he and his family were safe amid the chaotic situation.

Example 2 My own house feels as filthy and chaotic as a bus terminal.

⑫ **dignity** ['dɪgnətɪ] ***n.***

If you talk about the dignity of people or their lives or activities, you mean that they are valuable and worthy of respect.

synonym	sanctity; nobility; self-respect; self-esteem; pride
antonym	ignominy; informality; unworthiness
word family	dignify; dignified
related phrase	with dignity

Example 1 Prisoners should be treated with regard for human dignity.

Example 2 Patients should be allowed to die with dignity.

⑬ **industrious** [ɪn'dʌstrɪəs] ***adj.***

If you describe someone as industrious, you mean they work very hard.

synonym	diligent; hard-working; assiduous; painstaking; busy; conscientious
antonym	indolent
word family	industriously
related phrase	industrious student/study

Example 1 Being industrious students, they would write all kinds of notes down.

Example 2 Because he believed success came from industry, he was very industrious.

⑭ **deviate** ['di:vɪeɪt] ***vi./vt.*** **(deviated/deviated/deviating)**

To deviate from something means to start doing something different or not planned, especially in a way that causes problems for others.

synonym	differ; depart; diverge; stray; digress
antonym	conform; keep to
word family	deviated; deviation; deviating
related phrase	deviate from

Example 1 They stopped you as soon as you deviated from the script.

Example 2 He deviated her from the right path.

⑮ **encyclopedia** [ɪnˌsaɪklə'pi:dɪə] ***n.***

An encyclopedia is a book or set of books in which facts about many different subjects or about one particular subject are arranged for reference, usually in alphabetical order.

synonym	reference work; compendium; compilation; data bank; almanac
word family	encyclopaedic; encyclopedism

Example 1 Wales, 39, is the father of the world's most sprawling encyclopedia, the online Wikipedia.

Example 2 He now has super-human mathematical talent, can read and remember the contents of an encyclopedia volume in a few minutes, and speak a language fluently after reading one textbook.

⑯ **freak** [fri:k] ***adj.***

A freak event or action is one that is a very unusual or extreme example of its type.

synonym	abnormal; fantastic; bizarre; unusual
related phrase	freak accident/result/wind/wave/storm

Example 1 He was crushed to death in a freak accident.

Example 2 The men drowned when a freak wave sank their boat.

⑰ **audible** ['ɔ:dəbl] ***adj.***

A sound that is audible is loud enough to be heard.

synonym	hearable; perceptible; clear; loud
antonym	inaudible
word family	audibly; audibility

Example 1 The Colonel's voice was barely audible above the roar of the crowd.

Example 2 The voice is only audible to people inside the building—those standing outside hear nothing.

⑱ **novelty** ['nɒvltɪ] ***n.*** **(*pl.* novelties)**

A novelty is something that is new and therefore interesting.

synonym innovation; originality; newness; freshness; uniqueness

word family novate; novation

Example 1 Stores really like orange cauliflower because it's a novelty; it's something different.

Example 2 Then the Internet was still something of a novelty.

⑲ **accustom** [ə'kʌstəm] ***vt.*** **(accustomed/accustomed/accustoming)**

If you accustom yourself or another person to something, you make yourself or them become used to it.

synonym habituate; get to know; get used to; acclimatize; acclimate

word family accustomed

related phrase accustom yourself to sth.; become accustomed to

Example 1 She tried to accustom herself to the tight bandages.

Example 2 It took a while for me to accustom myself to all the new rules and regulations.

⑳ **pretentious** [prɪ'tenʃəs] ***adj.***

If you say that someone or something is pretentious, you mean that they try to seem important or significant, but you do not think that they are.

synonym affected; ostentatious; showy; exaggerated; pompous

antonym down-to-earth

word family pretentiously; pretentiousness

related phrase a pretentious film/language

Example 1 His response was full of pretentious nonsense.

Example 2 He is a talented but pretentious writer.

㉑ **voyage** ['vɔɪ-ɪdʒ] ***n.***

A voyage is a long journey on a ship or in a spacecraft.

synonym navigation; sailing; trip; expedition

word family voyager

related phrase voyage of discovery; long/maiden voyage

Example 1 He aims to follow Columbus's voyage to the West Indies.

Example 2 The voyage from England to India used to take six months.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

afield	ark	blip	canoe	chronicle
classification	contingent	countenance	crest	ethics
expedition	expend	flora	galaxy	laborious
logistics	practitioner	repute	specimen	tally
tiresome	trickle			

Part 2 Text

Naturalists, Collectors, and Biodiversity

We humans are one in a million: to be exact, one species among 1,392,485, according to a recent tally by the zoologist Edward O. Wilson. Those are what we know: estimates of the total number of living species range from five to thirty million and up, depending on how one reckons. A substantial majority of Earth's species are insects: something like 751,000 by Wilson's tally. Plants account for another 248,428, the vast majority being flowering plants. Among the vertebrates, bony fishes are the largest group, with 18,150 species, leaving aside the 63 species of jawless fishes and the 843 cartilaginous fishes. Amphibia and reptiles account for 4,184 and 6,300 more species; birds for 9,040, and mammals for 4,000. Not to mention invertebrates other than insects: tunicates and cephalochordates (1,273), mollusks (roughly 50,000), and arthropods (12,161). And single-cell organisms: algae (26,900), fungi (46,983), protozoa and microbes (36,560). Of fellow vertebrates there is an estimated inventory that is nearly over 90 percent. On the plants and invertebrates, however, we may only have made a start. We earthlings sail through the void on an ark that is impressively biodiverse.

Biodiversity is a lively issue these days, mainly because many species are going extinct, either by natural causes, or because we humans are destroying their habitats. Wilson estimates that perhaps 17,500 species go extinct each year in tropical forests, and that we humans have accelerated the historical rate of extinction by a factor of one thousand to ten thousand. Biologists and conservationists are fraught that vast numbers of species may be forced into extinction prematurely (extinction is the ultimate destiny of all species) before they can be found for classification. There is concern, too, that in our ignorance we may be uprooting species vital to the fabric of ecosystems on which we depend for our own survival.

Systematic biology, or taxonomy, is reputed to be a tiresome, cataloging science—a reputation entirely undeserved. We depend on those few among us who collect, describe, name, and classify our fellow passengers on the global ark. But how exactly do we find, glean, identify, and order those species? That is my subject here: not the biology or the ethics of biodiversity, but its practices and their history. Though people have always named plants and animals, the science of species inventory is relatively new, beginning with the big bang of Carl von Linne's invention of the (Linnaean[1]) binomial system of naming in the mid-eighteenth century. And though much has

been written on theories of species, relatively little is known of the practical work that produced the empirical base for theorizing. When and how were those inventories created and made robust? Who organized and expended on collecting expeditions, collected and prepared specimens in the field, compiled lists, built museums and herbaria, and kept vast collections in good physical and conceptual order? Of these practical activities we do not yet know much.

The history of our knowledge of biodiversity is first and foremost a history of collecting and collections. Remarkably little has been written about the craft and social history of scientific collecting: it remains a "black box", as the historian Martin Rudwick observed a few years ago, an activity that has "barely been described by historians, let alone analyzed adequately". There are now signs of a growing interest in the history of collecting science, but it is perhaps understandable why this black box is now being opened. Although collecting is a widespread and varied obsession, modern scientific collecting is sober and businesslike, not chaotic or idiosyncratic. It is done en masse and methodically, because modern taxonomy requires large and comprehensive collections. Scientific collecting is laborious and quantitative science, as methodical and organized as taking stock of galaxies, subatomic particles, or genes. Modern specimen collections are quite unlike the romantic "cabinets of curiosities[2]" of earlier centuries. Modern herbaria consist of cases filled with hundreds of thousands of large folios of pressed plants in paper. Museum study collections are rooms of metal boxes, each with trays of animal skins and skulls in neat rows neatly labeled-all seemingly humdrum and unromantic.

Yet the scientific visions that inspire collectors to go afield, and the varied activities that go into making large collections, are anything but humdrum. Collecting engages verse sorts of people-unlike laboratory science, which is restricted to a few approved types. The botanist Edgar Anderson once did an experiment, in which he took a manila folder at random from an herbarium case (a Southwestern grass), to discover the kinds of people who had collected the specimens. It was an amazingly diverse lot: a botanist on the Mexican Boundary Survey of the early 1850s; an immigrant intellectual German who had come to America in 1848 to dodge political persecution; the wife of a mining engineer stationed in a remote mountain range, who dealt with the isolation by studying the local flora; a Boston gentleman, who made collecting trips to New Mexico for thirty years; and a Los Alamos scientist and amateur botanist; university professors of botany. "Though they have sometimes been referred to as 'taxonomic hay' with contempt by other biologists," Anderson concluded, "herbarium specimens can be quite romantic in their own dry way."

Anderson's experiment is easily replicated: page through museums' accession lists, and you will see hundreds of names of people who contributed specimens to scientific collections, from a few odd skins to tens of thousands. Read taxonomists' checklists—which give for each species the name of the naturalist who first described it, and when—and you will glimpse a living community of collectors and naturalists stretching back 250 years, in which amateurs have the same honor and dignity as the most eminent professionals. Species collectors are as diverse as the species they collect, and no other community of scientists preserves such a deep sense of its collective identity. Taxonomists' elaborate system of keeping track of names, which anchors each species to the name historically first given to it and to the actual specimen first describe—the "type" specimen—keeps the past forever present. All sciences have their heroes and founding myths, but taxonomy is about the only one with a living memory of all past contributors, famous and obscure.

Scientific collecting was (and is) also an unusually complex and varied kind of work.

Collecting expeditions are more complex socially than anything one might find in a biochemistry or gene sequencing lab. They require a great deal of book knowledge, but also practical skills of woodcraft and logistics, as well as firsthand experience of animal habits and habitats. Modern natural history is an exacting science whose practitioners must also cope and improvise in difficult field conditions. Collecting expeditions afford an experience of nature that mixes scientific and recreational culture in a way that lab sciences never do. Collecting parties usually travel light and depend on local inhabitants for information and countenance, making survey collecting a diversely social experience. And because of that diversity, the identity of scientific collectors has been less fixed than that of laboratory workers. In the black box of modern expeditionary collecting, there is much of interest.

We know nature through industrious work, the environmental historian Richard White has observed, whether it is poling canoes against the current of a great river, or building dams across it to tap its energy, or hauling fish out of it, or deviating its waters for irrigated farming—or, historians may add, studying its hydrology and natural history. So too is our scientific knowledge of nature acquired through the work of mounting expeditions; observing plant and animal life; and collecting, preparing and sorting specimens. Historians have only recently begun to address the work of field science. And of all the field sciences, natural history survey is an exceptionally inviting subject—because the work of systematic, scientific collecting is so varied.

One is also struck, paging through scientific inventories of species, by the lumpiness of the history of their discovery. Species have accumulated steadily, but more rapidly in certain periods. The first period of discovery was the Linnaean: roughly the second half of the eighteenth century. Then, after a pause of a few decades in the early nineteenth century, another period of rapid discovery set in from the 1830s to the 1850s, which I shall call "Humboldtian[3]", after the encyclopedia-like author of Cosmos[4], Alexander von Humboldt. Following another pause, the pace of finding and naming again quickened from the 1880s into the 1920s, by which time a substantial proportion of vertebrate species had been found and named. Since the mid-twentieth century the pace of discovery has been a fitful trickle.

These cycles of collecting and naming vary a good deal from one group of animals to another, depending on their accessibility and interest to us. Those that are large, fierce, freak, beautiful, edible, lovable, or dangerous were inventoried early on. These include birds, carnivores, primates, and large game. Inconspicuous or insignificant creatures, or those that do not appeal—because they are slimy, cold-blooded, annoying, nocturnal, or just very good at avoiding our notice—were not fully inventoried until the surveys of the late nineteenth and early twentieth century or even later. These groups include rodents, bats, insectivores, amphibians, and reptiles.

Birds—those visible, audible, and beloved objects of watchers and collectors—were so well inventoried in the Linnaean and Humboldtian periods that the discoveries of the later survey phase show up as mere blips on a declining curve of discovery. In contrast, discoveries of mammalian species display the most pronounced cyclic pattern, with marked activity in the first two phases, but the most productive collecting in the survey period. The pattern for North American mammals is even more pronounced, with discoveries more concentrated in the 1890s, and the earlier crest shifted from the 1830s and 1840s to the 1850s and 1860s. Different groups of mammals show some variation in this basic pattern. Most carnivore species were described in the eighteenth century, and most of the rest in the 1820s and 1830s—we humans have taken a keen interest in our

closest competitors. Rodents, in contrast, were hardly known to Linnaean describers and not fully known to science until the age of survey, when it first became apparent just how prolific of species this group has been—it would appear that the Creator loves rodents as well as He does beetles. Insectivores display the same strikingly Jumpy pattern of discovery; as do chiroptera (bats), though with a stronger period of discovery in the mid-nineteenth century and a less striking peak in the early twentieth. Discoveries of North American reptiles and amphibians also display periodicity, though less markedly: relatively few were described before 1800, most in the 1850s, with small peaks in the age of survey and after.

These distinctive periods in the pace of collecting and describing suggest that the process of discovery was not random and individualistic, but that individual efforts were synchronized by larger cultural, economic, and social trends. This is not a novelty. It is commonplace that early modern naturalists were inspired by the flood of new knowledge that was a by-product of the expanding global reach of European trade and conquest. And we now know that Linnaean taxonomy grew out of the widespread interest in Enlightenment[5] Europe in state-sponsored agricultural improvement, including schemes for accustoming exotic species to northern countries.

It was in the age of survey that scientists became fully aware of the world's biodiversity. In places that were explored but not intensively worked, like the American West or much of South America, faunas and floras that had seemed closed books were reopened and vastly expanded. In its first two years of operation in the western states, the U.S. Biological Survey turned up seventy-one new vertebrate species—an abundance that some zoologists found hard to credit. Inventories of vertebrate animals became so complete that subsequent discoveries of new species became media events. Why, then, has this phase in the discovery of biodiversity remained the least well known?

One reason is that collecting expeditions were mostly small and were not pretentious, unlike the grand voyages of imperial exploration. Scientific collecting in the age of survey was accomplished mostly by small parties (three to half a dozen) whose purpose was to send back not exotica and accounts of heroic adventure and discovery, but rather crates of specimens. It is the dramatic explorations of the earlier periods that have caught the eye, because they were designed to catch the eye of investors, princes, publishers, readers, chronicle compilers. It is not contingent that the heroic voyaging of eighteenth and early-nineteenth century explorers—Cook, Vancouver, Lapérouse, Humboldt, Bougainville, Murchison—is well documented and remembered. Or that historians have dwelt on the feats of American explorers from Lewis and Clark to later ventures like the Harriman Alaska Expedition, or the adventures of polar explorers, rather than on the more numerous but less flashy modern discoverers of biodiversity. Still, this imbalance needs to be set right, and I hope this book will help do that.

(Adapted from "Naturalists, Collectors, and Biodiversity", http://press.princeton.edu/chapters/s8334.html, written by Robert E. Kohler)

Notes



Linnaean

Linnaean taxonomy can mean either of two related concepts: 1) the particular form of biological classification (taxonomy) set up by Carl Linnaeus, as set forth in his *Systema Naturae* (1735) and subsequent works. In the taxonomy of Linnaeus there are three kingdoms, divided

into classes, and they, in turn, into orders, families, genera, and species, with an additional rank lower than species. 2) a term for rank-based classification of organisms, in general. That is, taxonomy in the traditional sense of the word: rank-based scientific classification. This term is especially used as opposed to cladistic systematics, which groups organisms into clades. It is attributed to Linnaeus, although he neither invented the concept of ranked classification (it goes back to Plato and Aristotle) nor gave it its present form. In fact, it does not have an exact present form, as "Linnaean taxonomy" as such does not really exist: it is a collective (abstracting) term for what actually are several separate fields, which use similar approaches.

② cabinets of curiosities

Cabinets of curiosities were encyclopedic collections of objects whose categorical boundaries were, in Renaissance Europe, yet to be defined. Modern terminology would categorize the objects included as belonging to natural history (sometimes faked), geology, ethnography, archaeology, religious or historical relics, works of art (including cabinet paintings), and antiquities. Besides the most famous, best documented cabinets of rulers and aristocrats, members of the merchant class and early practitioners of science in Europe formed collections that were precursors to museums.

③ Humboldtian

The Humboldtian model of higher education is a concept of academic education that emerged in the early 19th century and whose core idea is a holistic combination of research and studies. Sometimes called simply the Humboldtian Model, it integrates the arts and sciences with research to achieve both comprehensive general learning and cultural knowledge, and it is still followed today.

④ Cosmos

The cosmos is the universe regarded as a complex and orderly system, the opposite of chaos. The philosopher Pythagoras used the term cosmos for the order of the universe, but the term was not part of modern language until the 19th century geographer and polymath, Alexander von Humboldt, resurrected the use of the word from the ancient Greek, assigned it to his multi-volume treatise, *Kosmos*, which influenced modern and somewhat holistic perception of the universe as one interacting entity.

⑤ Enlightenment

The Enlightenment (also known as the Age of Enlightenment) was an intellectual and philosophical movement which dominated the world of ideas in Europe during the 18th century, "The Century of Philosophy". The Enlightenment included a range of ideas centered on reason as the primary source of authority and legitimacy, and came to advance ideals like liberty, progress, tolerance, fraternity, constitutional government, and separation of church and state. In France, the central doctrines of les Lumières were individual liberty and religious tolerance in opposition to an absolute monarchy and the fixed dogmas of the Roman Catholic Church. The Enlightenment was marked by an emphasis on the scientific method and reductionism along with increased questioning of religious orthodoxy—an attitude captured by the phrase Sapere aude, "Dare to know".

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) How were these multitudinous creatures collected, recorded, and named? When, and by whom?
2) Did he get support from governments when collecting expeditions to every corner of the world?
3) Why the survey collecting was rooted not just in science but also in new customs of outdoor recreation?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage .*

1) ________ The issue of biodiversity attracts people's attention because it contains much useful knowledge.
2) ________ Much has been written on theories of species because people know much about the practical work that produced the base for theorizing.
3) ________ Edgar Anderson's experiment discovered that the kinds of people who collected specimens were quite diverse.
4) ________ Species collecting is unusually complex socially because it not only involves book knowledge but requires diverse practical skills and experiences.
5) ________ Two factors that influence the pace of collecting and naming of certain species are accessibility and interest to us.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

exercise	faculty	grammatical	militant	psychotic
destiny	expend	expedition	contempt	audible
sieve	stunt	telescope	swirl	sup

1) A ________ is an unusual and difficult physical act requiring a special skill, performed for artistic purposes usually for action movies.
2) Robert is a great explorer who is best known for his successful South Pole ________.
3) It is universally acknowledged that it is ________ that brings people together.
4) The old sailor took a ________ of vodka and began his tale.

5) ________ members complain that their students are unprepared to do college-level work.
6) The man, who police believe is ________, is thought to be responsible for eight attacks.
7) It was early in the morning so she tried to lower her voice until it was barely ________.
8) Smith is a ________ political activist who is unwilling to compromise on any issue.
9) He poured the soup through a ________ to remove all the lumps.
10) He feels that wealthy people view him with ________ because he is poor.
11) His composition is excellent except for some ________ mistakes.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) There is concern, too, that in our ignorance we may be uprooting species vital to the fabric of ecosystems on which we depend for our own survival.
2) Collecting parties usually travel light and depend on local inhabitants for information and countenance, making survey collecting a diversely social experience.
3) And of all the field sciences, natural history survey is an exceptionally inviting subject—because the work of systematic, scientific collecting is so varied.
4) It is commonplace that early modern naturalists were inspired by the flood of new knowledge that was a by-product of the expanding global reach of European trade and conquest.
5) One reason is that collecting expeditions were mostly small and were not pretentious, unlike the grand voyages of imperial exploration.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

Elizabethan	bilingual	hostess	warrior	brag
homesick	arrogance	binge	bib	complacency

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) aft	a. a cereal grass of cool climates, widely cultivated for its grain
2) funnel	b. a piece of candy, especially hard candy
3) monastery	c. a long, thin pole with a blade at one end, inserted into an oarlock and used to row or steer a boat
4) radius	d. a community of persons, especially monks, bound by vows to a religious life and often living in partial or complete seclusion
5) baptist	e. to make personal
6) rye	f. something apparently seen, heard, or sensed, but having no physical reality
7) ordination	g. a passageway under an arch
8) oar	h. at, in, toward, or close to the stern of a vessel or the rear of an aircraft or spacecraft
9) personalise	i. to wave or flap rapidly in an irregular manner
10) orthopaedic	j. a line segment that joins the center of a circle with any point on its

circumference

11) archway   **k.** the act of conferring holy orders

12) scaffold   **l.** a member of any of various Christian sects that affirm the necessity of baptism following a personal profession of the Christian faith

13) flutter   **m.** a raised wooden framework or platform

14) phantom   **n.** designed to help correct or ameliorate the discomfort of disorders of the spine and joints

15) lolly   **o.** a conical utensil having a small hole or narrow tube at the apex and used to channel the flow of a substance, as into a small-mouthed container

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

Anglo	bandwagon	kennel	Croat	deli	Yankee	Celtic
Finn	Scotsman	sidecar	barrack	Saxon	Venetian	fiat
chalet	Georgian	vicarage	jeep	Alsatian	gig	limo

Group A: Anglo

____

____

Group B: bandwagon

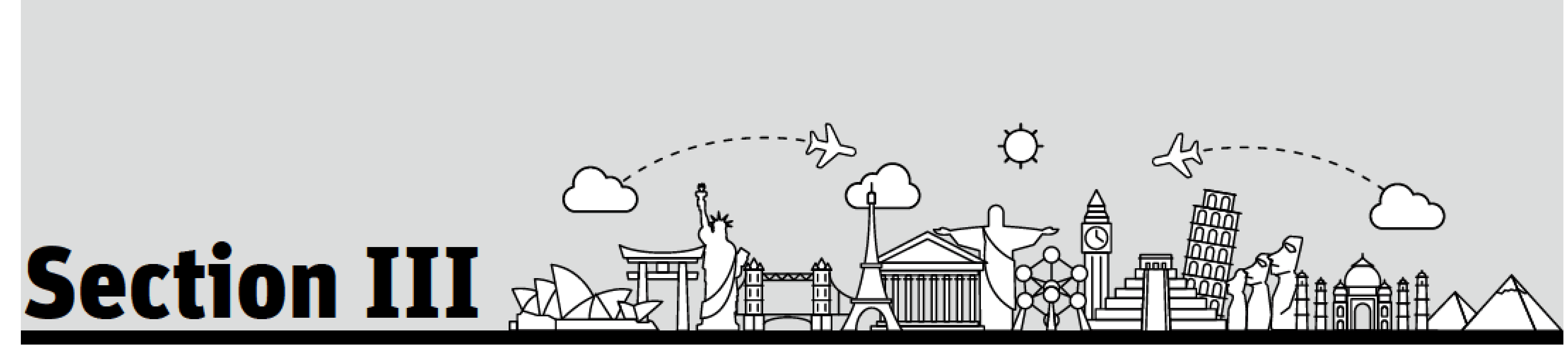
____

____

Group C: chalet

____

____



Section III

Text B: No-till: How Farmers Are Saving the Soil by Parking Their Plows

Part 1 Power of Words

Core Words

① **proficient** [prə'fɪʃnt] ***adj.***

If you are proficient in something, you can do it well.

synonym	experienced; skilled; accomplished; perfect; clever; adept; capable; competent; expert
antonym	incompetent
word family	proficiently; proficiency
related phrase	proficient in/at

Example 1 A great number of Egyptians are proficient in foreign languages.

Example 2 There's only one way to become proficient at anything—practice!

② **wriggle** ['rɪgl] ***vi./vt.*** **(wriggled/wriggled/wriggling)**

If you wriggle or wriggle part of your body, you twist and turn with quick movements, for example, because you are uncomfortable.

synonym	squirm; worm; wiggle; writhe; turn; twist
word family	wriggly; wriggler
related phrase	wriggle out of; wriggle under/through/into

Example 1 The babies are wriggling on their tummies.

Example 2 The dog wriggled free and ran off.

③ **dismal** ['dɪzməl] ***adj.***

Something that is dismal is bad in a sad or depressing way.

synonym	miserable; gloomy; depressing; dreary; dull; dark; blue
antonym	bright
word family	dismally
related phrase	dismal performance/failure/outlook/record

Example 1 The main part of the hospital is pretty dismal but the children's ward is really lively.

Example 2 The future looks pretty dismal right now.

④ **abolition** [ˌæbə'lɪʃn] ***n.***

The abolition of something such as a system or practice is its formal ending.

synonym	elimination; ending; closing down; eradication; closure; destoolment; abrogation
antonym	establishment
word family	abolishable; abolitionist; abolitionism; abolish
related phrase	Abolition Movement; Abolition Date

Example 1 The abolition of slavery in Brazil and the Caribbean closely followed the pattern of the United States.

Example 2 Their discussion centered around the abolition of slavery.

⑤ **intact** [ɪn'tækt] ***adj.***

Something that is intact is complete and has not been damaged or changed.

synonym	complete; whole; unbroken; integral
antonym	broken
word family	intactness
related phrase	keep intact; intact forest

Example 1 Customs men put dynamite in the water to destroy the cargo, but most of it was left intact.

Example 2 The money was returned intact by its finder.

⑥ **underestimate** [ˌʌndər'estɪmeɪt] ***vt.*** **(underestimated/underestimated/underestimating)**

If you underestimate something, you do not realize how large or great it is or will be.

synonym	undervalue; underrate; misjudge; miscalculate
antonym	overestimate
word family	underestimation
related phrase	underestimate the importance/extent/effect/power/strength/value; underestimate how/what

Example 1 We underestimated how long it would take to get there.

Example 2 Never underestimate the power of the press.

⑦ **detract** [dɪ'trækt] ***vi.*** **(detracted/detracted/detracting)**

If one thing detracts from another, it makes it seem less good or impressive.

synonym	diminish; lessen; reduce; undermine; weaken; thumb down; play down
antonym	bolster
word family	detractive; detractor; detraction
related phrase	detract from

Example 1 They feared that the publicity surrounding him would detract from their own election campaigns.

Example 2 One mistake is not going to detract from your achievement.

⑧ **buffer** ['bʌfə] ***vt.*** **(buffered/buffered/buffering)**

If something is buffered, it is protected from harm.

synonym shock absorber; bumper; cushion; shield
word family buff
related phrase buffer zone

Example 1 The drug buffered her pain.

Example 2 The company is buffered by long-term contracts with growers.

⑨ **stale** [steɪl] ***adj.***

Stale food is no longer fresh or good to eat.

synonym decayed; sour; old; musty; banal; trite
antonym fresh; original
word family staleness
related phrase stale bread

Example 1 Their daily diet consisted of a lump of stale bread, a bowl of rice, and stale water.

Example 2 French bread goes stale very quickly.

⑩ **hectic** ['hektɪk] ***adj.***

A hectic situation is one that is very busy and involves a lot of rushed activity.

synonym busy; frantic; frenzied; excited; confused; chaotic
antonym calm
word family hecticness; hectically
related phrase hectic schedule/pace/life

Example 1 Despite his hectic work schedule, Benny has rarely suffered poor health.

Example 2 Schedule your runs like appointments, so you make them a priority during a hectic week.

⑪ **entice**[ɪn'taɪs] ***vt.*** **(enticed/enticed/enticing)**

To entice someone to go somewhere or to do something means to try to persuade them to go to that place or to do that thing.

synonym lure; tempt; induce; seduce; encourage; egg on
antonym put off
word family enticing; enticement

Example 1 They'll entice thousands of doctors to move from the cities to the rural areas by paying them better salaries.

Example 2 Retailers have tried almost everything, from cheap credit to free flights, to entice shoppers through their doors.

⑫ **considerate** [kən'sɪdərət] ***adj.***

Someone who is considerate pays attention to the needs, wishes, or feelings of other people.

synonym	thoughtful; kind; understanding; caring; selfless
antonym	inconsiderate
word family	considerately; considerable; consideration; consider
related phrase	it is considerate of sb. (to do sth.); considerate towards

Example 1 I think he's the most charming, most considerate man I've ever known.

Example 2 It was very considerate of you to let us know you were going to be late.

⑬ **reckless** ['rekləs] ***adj.***

If you say that someone is reckless, you mean that they act in a way which shows that they do not care about danger or the effect their behaviour will have on other people.

synonym	irresponsible; wild; thoughtless; uncontrolled; out of control
antonym	cautious
word family	recklessly; recklessness
related phrase	reckless disregard for safety

Example 1 He is charged with reckless driving.

Example 2 Reckless spending in the past has resulted in perpetual deficit spending in the present.

⑭ **recompense** ['rekəmpens] ***vt.*** **(recompensed/recompensed/recompensing)**

If you recompense someone for their efforts or their loss, you give them something, usually money, as a payment or reward.

synonym	reward; compensate; repay; pay; remunerate
antonym	charge
related phrase	recompense sb. for sth.

Example 1 If they succeed in court, they will be fully recompensed for their loss.

Example 2 The charge recompenses the bank for the costs involved.

⑮ **onerous** ['əʊnərəs] ***adj.***

If you describe a task as onerous, you dislike having to do it because you find it difficult or unpleasant.

synonym	difficult; burdensome; arduous; heavy; tiring
antonym	easy
related phrase	an onerous task

Example 1 The parents have had the onerous task of bringing up a very difficult child.

Example 2 When one of his children got sick, he took a loan from a moneylender at an onerous interest rate.

⑯ **remunerate** [rɪ'mjuːnəreɪt] ***vt.*** **(remunerated/remunerated/remunerating)**

If you are remunerated for work that you do, you are paid for it.

synonym pay; reward; compensate; recompense; repay; indemnify
word family remunerative; remunerated; remuneration; remunerator
related phrase remunerate sb. for sth.

Example 1 You will be remunerated and so will your staff.

Example 2 All the workers will be remunerated for their services at the exhibition.

⑰ **bewilder** [bɪ'wɪldə] ***vt.*** **(bewildered/bewildered/bewildering)**

If something bewilders you, it is so confusing or difficult that you cannot understand it.

synonym confuse; puzzle; baffle; perplex; confound; bemuddle; enchant
antonym clarify
word family bewildered; bewildering; bewilderingly; bewilderment

Example 1 The silence from Alex had hurt and bewildered her.

Example 2 He was bewildered by his daughter's reaction.

⑱ **ado** [ə'duː] ***n.***

If you do something without further ado or without more ado, you do it at once and do not discuss or delay it any longer.

synonym trouble; headache; bustle; kerfuffle; commotion; bother
related phrase without more/further ado; much ado about nothing; with much ado

Example 1 And now, without further ado, let me introduce our benefactor.

Example 2 So without further ado, I'll now ask Mr. Davis to open the debate.

⑲ **redress** [rɪ'dres] ***n.***

Redress is money that someone pays you because they have caused you harm or loss.

synonym compensation; reparation; damage; recompense; reimbursement
word family redresser; redressal
related phrase seek redress

Example 1 They are continuing their legal battle to seek some redress from the government.

Example 2 The only hope of redress is in a lawsuit.

⑳ **coerce** [kəʊ'ɜːs] ***vt.*** **(coerced/coerced/coercing)**

If you coerce someone into doing something, you make them do it, although they do not want to.

synonym pressure; enforce; force; press; strong-arm
antonym persuade
word family coercive; coercion
related phrase coerce sb. into doing sth.

Example 1 Potter had argued that the government coerced him into pleading guilty.

Example 2 The rebels coerced the villagers into hiding them from the army.

㉑ **tout** [taʊt] ***vt.*** **(touted/touted/touting)**

If someone touts something, they try to sell it or convince people that it is good.

synonym	drum up; hawk; advertise; hype; flaunt; peddle
antonym	understate
word family	touter
related phrase	be touted as sth.

Example 1 The politician was touted as a friend of people.

Example 2 Nell is being touted as the next big thing in Hollywood.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

Argentina	breadwinner	centigrade	changeover	chisel
discontinue	dissatisfy	farewell	farmland	groove
hoe	manpower	nutrition	optimism	peasant
ploy	prudent	radical	workload	

Part 2 Text

No-till: How Farmers Are Saving the Soil by Parking Their Plows

John Aeschliman, proficient in farming, turns over a shovelful of topsoil on his 4,000-acre farm in the Palouse region[1] of eastern Washington State. The black earth crumbles easily, revealing a porous structure and an abundance of organic matter that facilitate root growth. Loads of earthworms are wriggling, too—another healthy sign.

Thirty-four years ago only a few earthworms, if any, could be found when he hoed the soil. Back then, Aeschliman would plow the fields before each planting, burying the residues from the previous crop and readying the ground for the next one. The hilly Palouse region had been farmed that way for decades. But what vexed him is that the tillage was taking a toll on the Palouse, and its famously fertile soil was eroding at an alarming rate. Convinced that there had to be a better way to work the land, Aeschliman decided to experiment in 1974 with an emerging method known as no-till farming.

Most farmers or peasants worldwide plow their land in preparation for sowing crops. The practice of turning the soil before planting buries crop residues, animal manure and troublesome weeds and also aerates and warms the soil. But clearing and disturbing the soil in this way can also leave it vulnerable to erosion by wind and water. Tillage is a root cause of agricultural land degradation, which results in dismal food production and rural livelihoods, particularly in poor and densely populated areas of the developing world. Furthermore, tillage can promote the runoff of sediment, fertilizers and pesticides into rivers, lakes and oceans. No-till farming, that is, the abolition of tillage, in contrast, seeks to minimize soil disruption. Practitioners keep the land intact

by leaving crop residue on the fields after harvest, where it acts as a mulch to protect the soil from erosion and fosters soil productivity. To sow the seeds, farmers use specially designed seeders that penetrate through the residue to the undisturbed soil below, where the seeds can germinate and surface as the new crop.

In its efforts to feed a growing world population, agriculture has expanded, resulting in a greater impact on the environment, human health and biodiversity. But given our current knowledge of the planet's capacity, we now realize that producing enough food is not enough—it must also be done sustainably. Farmers need to generate adequate crop yields of high quality, conserve natural resources for future generations, make enough money to be breadwinners, and be socially just to their workers and community. No-till farming, which cannot be underestimated, is one system that has the potential to help realize this vision of more sustainable agriculture. As with any new system, there are challenges and trade-offs with no-till. Nevertheless, growers in some parts of the world begin to discontinue their plows.

Signing up for No-till

Farmers today prepare for planting in ploys or ways that disturb the soil to varying degrees. Tillage, which dissatisfies farmers, completely turns over the first 6 to 10 inches of soil with a moldboard plow, burying most of the residue. A chisel plow, meanwhile, only fractures the topsoil and preserves more surface residue. In contrast, no-till methods merely create in each planted row a groove just half an inch to three inches across into which seeds can be dropped, resulting in minimal overall soil disturbance. In the U.S., no-till agriculture fits under the broader U.S. Department of Agriculture definition of conservation tillage. Conservation tillage includes any method that retains enough of the previous crop residues such that at least 30 percent of the soil surface is covered after planting. The protective effects of such residues are considerable.

Soil protection is not the only benefit of no-till. Leaving crop residues on the soil surface helps to increase water infiltration and limit runoff. Decreased runoff, in turn, can reduce pollution of nearby water sources with transported sediment, fertilizers and pesticides. The residues also promote water conservation by reducing evaporation. In instances where water availability detracts from crop production, greater water conservation can mean higher-yielding crops or new capabilities to grow alternative crops.

The no-till approach also fosters the diversity of soil flora and fauna by providing soil organisms such as earthworms, with food from the residues and by stabilizing their habitat. Together with associated increases in soil organic matter, these conditions encourage soils to develop a more stable internal structure, further improving the overall capacity to grow crops and to buffer them against stresses caused by farming operations or environmental hazards. No-till can thus enable the more sustainable farming of moderately to steeply sloping lands that are at elevated risk of erosion and other problems.

Wildlife, too, gains from no-till, because standing crop residues and inevitable harvest losses of grain provide cover and food for upland game birds and other species. In a study published in 1986, researchers in Iowa found 12 bird species nesting in no-till fields, compared with three species in tilled fields.

Furthermore, reducing tillage increases soil carbon sequestration, compared with conventional moldboard plowing. One of agriculture's main greenhouse gas mitigation strategies is soil carbon

sequestration, wherein crops remove carbon dioxide from the atmosphere during photosynthesis, and nonharvested residues and roots are converted to soil organic matter, which is 58 percent carbon. About half of the overall potential for U.S. croplands to sequester soil carbon comes from conservation tillage, including no-till.

In addition, no-till can offer economic advantages to farmers. The number of passes over a field needed to establish and harvest a crop with no-till typically decreases from seven or more to four or fewer. As such, it requires 50 to 80 percent less fuel and 30 to 50 percent workload than tillage-based agriculture, significantly lowering production costs per acre. Although specialized no-till seeding equipment can be expensive, with some sophisticated seeders priced at more than $100,000, running and maintaining other tillage equipment is no longer necessary, lowering the total capital and operating costs of machinery required for crop establishment by up to 50 percent. With these savings in time and money, farmers can be more competitive at smaller scales, or they can expand and farm more acres, sometimes doubling farm size using the same equipment and manpower. Furthermore, many farmers appreciate that the time they once devoted to rather stale and hectic tillage tasks they can instead spend on more challenging aspects of farming, family life or recreation, thereby enhancing their overall quality of life.

Betting the Farm

No-till and other conservation tillage systems can work in a wide range of climates, soils and geographic areas. Continuous no-till is also applicable to most crops, with the notable exceptions of wetland rice and root crops such as potatoes. Yet in 2004, the most recent year for which data are available, farmers were practicing no-till on only 236 million acres worldwide—not even 7 percent of total global cropland.

Of the top five countries with the largest areas under no-till, the U.S. ranks first, followed by Brazil, Argentina, Canada and Australia. About 85 percent of this no-till land lies in North and South America. In the U.S., roughly 41 percent of all planted cropland was farmed using conservation tillage systems in 2004, compared with 26 percent in 1990. Most of that growth came from expanded adoption of no-till, which more than tripled in that time, to the point where it was practiced on 22 percent of U.S. farmland. This no doubt partly reflects the fact that U.S. farmers are enticed to meet the definition of conservation tillage to participate in government subsidy and other programs. In South America, adoption of no-till farming has been relatively rapid as a result of coordinated efforts by considerate university agricultural-extension educators and local farm communities to develop viable no-till cropping systems tailored to their particular needs.

On the other hand, adoption rates are low in Europe, Africa and most parts of Asia. Embracing no-till has been especially difficult in developing countries in Africa and Asia, because farmers there often use the crop residues for fuel, animal feed and other purposes. Furthermore, the specialized seeders required for sowing crops and the herbicides needed for weed control may not be available or can be prohibitively expensive for growers in these parts of the world. Meanwhile, in Europe, an absence of government policies promoting no-till, along with elevated restrictions on pesticides (including herbicides), among other variables, leaves farmers with little incentive to adopt this approach.

The changeover from tillage-based farming to no-till is not easy. The difficulty of the transition, together with the common perception that no-till incurs a greater risk of crop failure or

lower net returns than conventional agriculture, has seriously hindered more widespread adoption of this approach. Although farmers accept that agriculture is not a fail-safe profession, they will hesitate to adopt a new farming practice if the risk of failure is greater than in the conventional practice. Because no-till is a radical departure from other farming practices, growers making the switch to no-till experience a steep learning curve. In addition to the demands of different field practices, the conversion has profound impacts on farm soils and fields. And the kinds of weeds and crop diseases can change. Indeed, the discovery of new crop diseases has sometimes accompanied the shift to no-till.

Some of the changes that follow from no-till can take years or even decades to unfold, and farmers need to remain vigilant and adaptable to new, sometimes unexpected, situations such as those that arise from shifts in soil and residue conditions or fertilizer management. They are afraid, the reckless transition will incur a real risk of reduced yields and even failed crops and they will not be recompensed. In the Palouse, for example, some farmers who attempted no-till in the 1980s find it onerous and they are no longer in business. Consequently, farmers looking to switch to no-till should initially limit the converted acreage to 10 to 15 percent of their total farm, in case their work may not be remunerated.

Farmers who are new to no-till techniques often visit successful operations and form local or regional support groups, where they share experience and discuss specific problems. But the advice they receive in areas with limited no-till adoption can be contradictory, and gaps in knowledge, experience or technology can have potentially disastrous outcomes. What bewilders farmers more is that if the perception that no-till is riskier than conventional techniques develops in a farming community, banks may not underwrite a no-till farmer's loan without further ado. Improving the quality of information exchange among farmers, universities, agribusinesses and government agencies will no doubt go a long way toward seeking redress and overcoming these obstacles.

Yet even in the hands of a seasoned no-till farmer, the system has drawbacks. No-till crop production on fine-textured, poorly drained soils can be particularly problematic, often resulting in decreased yields. And because the crop residue blocks the sun's rays from warming the earth to the same centigrade degree as occurs with conventional tillage, soil temperature is colder in the spring, which can slow seed germination and curtail the early growth of warm-season crops such as corn, in northern latitudes.

In the first four to six years, no-till demands the use of extra nitrogen fertilizer to meet the nutritional requirements of some crops, too—up to 20 percent more than is used in conventional tillage systems—because increasing organic matter at the surface immobilizes nutrients, including nitrogen. And in the absence of tillage, farmers are coerced to depend more heavily on herbicides to keep weeds at bay.

Herbicide-resistant weeds are already becoming more common on no-till farms. The continued practice of no-till is therefore highly dependent on the development of new herbicide formulations and other weed management options. Cost aside, greater reliance on agrichemicals may adversely affect nontarget species or contaminate air, water and soil.

Integrating No-till

No-till has the potential to deliver a host of benefits that are increasingly desirable in a world facing population growth, environmental degradation, rising energy costs and climate change,

among other daunting challenges. But no-till is not touted to be a cure-all; such a thing does not exist in agriculture. Rather it is part of a larger, evolving vision of sustainable agriculture, in which a diversity of farming methods from no-till to organic is considered healthy. We think that ultimately all farmers should integrate conservation tillage, and no-till if feasible, on their farms.

Future no-till farming will need to employ more diverse pest and weed management strategies, including biological, physical and chemical measures to lessen the threat of pesticide resistance. Practices from successful organic farming systems may be instructive in that regard. One such technique, crop rotation[2]—in which farmers grow a series of different crops in the same space in sequential seasons—is already helping no-till's war on pests and weeds by helping to break up the weed, pest and disease cycles that arise when one species is continuously grown.

To that end, the capacity to grow a diverse selection of economically viable crops would advance no-till farming and make it more appealing to farmers. But the current emphasis on corn to produce ethanol in the Midwestern Corn Belt[3], for instance, is promoting monoculture—in which a single crop such as corn, is grown over a wide area and replanted every year—and will likely make no-till farming more difficult in this region. Experts continue to debate the merits of growing fuel on farmland, but if we decide to proceed with biofuel crops, we will need to consider using no-till with crop rotation to produce them sustainably. Development of alternative crops for bioenergy production on marginal lands, including perennials such as switchgrass, could complement and promote no-till farming, as would perennial grain food crops currently under development.

Today, three decades after first attempting no-till on his Palouse farm, John Aeschliman uses the system on 100 percent of his land and says farewell to tillage. His adoption of no-till has followed a gradual, prudent path that has helped minimize his risk of reduced yields and net returns. Consequently, he is one of many farmers, large and small, who is reaping the rewards of no-till farming and helping agriculture evolve toward sustainability with courage and optimism.

(Adapted from "No-till: How Farmers Are Saving the Soil by Parking Their Plows", http://www.doc88.com/p-3595379802752.html, written by David R. Huggins and John P. Reganold)

Notes

① Palouse region

The Palouse is a region of the northwestern United States, encompassing parts of southeastern Washington, north central Idaho and, in some definitions, extending south into northeast Oregon. It is a major agricultural area, primarily producing wheat and legumes. Situated about 160 miles (260 km) north of the Oregon Trail, the region experienced rapid growth in the late 19th century, and at one time, the population of the Palouse surpassed even that of the Puget Sound area as the most populous region of the state. The region is home to two land grant universities, the University of Idaho in Moscow and Washington State University in Pullman. Located just eight miles (13 km) apart, both schools opened in the early 1890s.

② crop rotation

Crop rotation is the practice of growing a series of dissimilar or different types of crops in the same area in sequenced seasons. It is done so that the soil of farms is not used for only one set of nutrients. It helps in reducing soil erosion and increases soil fertility and crop yield.

Growing the same crop in the same place for many years in a row disproportionately depletes the soil of certain nutrients. With rotation, a crop that leaches the soil of one kind of nutrient is followed during the next growing season by a dissimilar crop that returns that nutrient to the soil or draws a different ratio of nutrients. In addition, crop rotation mitigates the buildup of pathogens and pests that often occurs when one species is continuously cropped, and can also improve soil structure and fertility by increasing biomass from varied root structures. Crop cycle is used in both conventional and organic farming systems.

③ Corn Belt

The Corn Belt is a region of the Midwestern United States where corn has, since the 1850s, been the predominant crop. More generally, the concept of the "Corn Belt" connotes the area of the Midwest dominated by farming. Many towns in this area are connected to powerful farm organizations with lobbying power.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) How does moisture content of the soil affect surface runoff by using the surface runoff model?
2) Does plowing affect the amount of soil erosion after a rainstorm?
3) Which is more effective in retaining surface moisture and preventing surface runoff, no-till or plow-based farming?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ In the past, Aeschliman plowed the fields before each planting, burying the residues from the previous crop and readying the ground for the next one.
2) ________ The practice of turning the soil can leave it vulnerable to erosion by wind and water.
3) ________ It is difficult for developing countries to embrace no-till farming because farmers are afraid that it may cause agricultural land degradation.
4) ________ Besides, soil protection, the no-till approach can also help to increase water infiltration and limit runoff.
5) ________ No-till farming can also be applicable to wetland rice and root crops such as potatoes.
6) ________ No-till crop production on fine-textured, poorly drained soils often result in decreased yields.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

vex	underestimate	detract	reckless	entice	snore	synthesis	instalment
omen	convoy	rant	callous	scoff	laundry	injustice	

1) They feared that the publicity surrounding him would ________ from their own election campaigns.
2) Her appearance at this moment is an ________ of disaster.
3) But such small sales are not enough to ________ big pharmaceutical companies to develop lots of antibiotics.
4) But to many onlookers, withholding relief seems ________ when a continent is suffering as much as Africa is.
5) It can acutely affect people who would otherwise ________ at any outburst of emotion at anything involving sports.
6) Even their three dogs got bored and fell asleep as he ________ on.
7) It ________ me to think of others gossiping behind my back.
8) Mass murderers tend to be middle-aged men who see themselves as victims of ________.
9) A ________ is a business that washes and irons clothes, sheets, and towels for people.
10) None of us should ever ________ the degree of difficulty women face in career advancement.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Tillage is a root cause of agricultural land degradation, which results in dismal food production and rural livelihoods, particularly in poor and densely populated areas of the developing world.
2) No-till farming, which cannot be underestimated, is one system that has the potential to help realize this vision of more sustainable agriculture. As with any new system, there are challenges and trade-offs with no-till.
3) Together with associated increases in soil organic matter, these conditions encourage soils to develop a more stable internal structure, further improving the overall capacity to grow crops and to buffer them against stresses caused by farming operations or environmental hazards.
4) Furthermore, many farmers appreciate that the time they once devoted to rather stale and hectic tillage tasks they can instead spend on more challenging aspects of farming, family life or recreation, thereby enhancing their overall quality of life.
5) This no doubt partly reflects the fact that U.S. farmers are enticed to meet the definition of conservation tillage to participate in government subsidy and other programs.
6) What bewilders farmers more is that if the perception that no-till is riskier than conventional techniques develops in a farming community, banks may not underwrite a no-till farmer's loan without further ado.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

notification	murmur	backfire	trudge	growl
hangover	yogurt	mute	slob	aroma

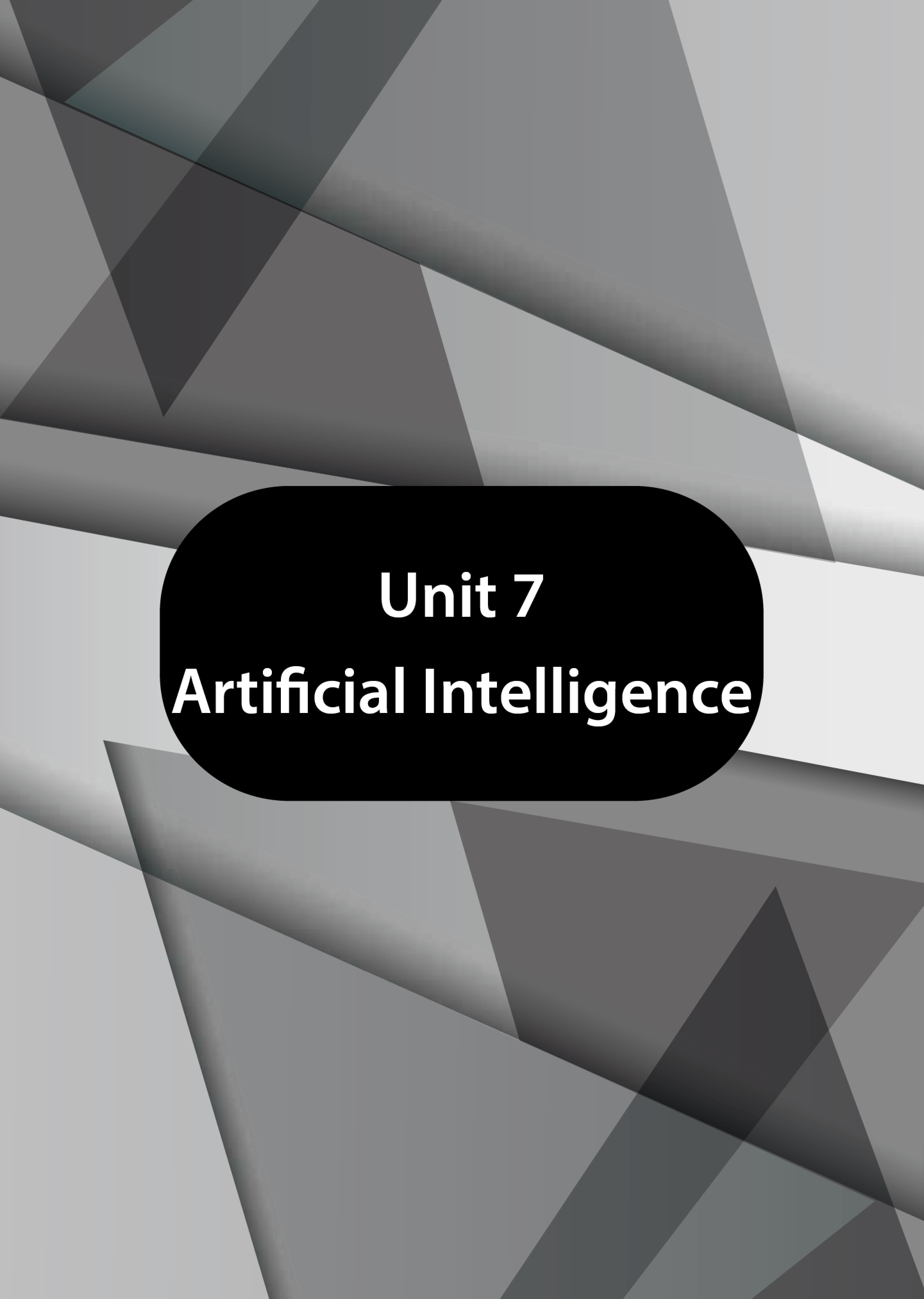
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

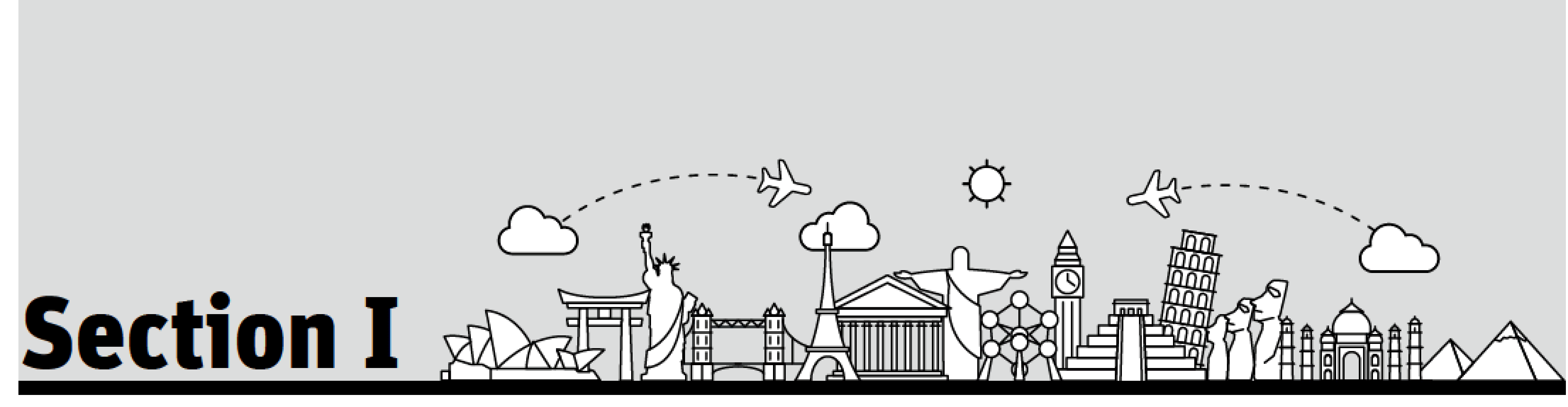
1) wriggle	**a.** a machine for cutting grass on lawns
2) groove	**b.** a type of gambling game in which people buy numbered tickets (several numbers are then chosen, and the people who have those numbers on their tickets win a prize)
3) entice	**c.** a deep line cut into a surface
4) onerous	**d.** to make payment to; compensate
5) remunerate	**e.** to twist and turn with quick movements
6) lottery	**f.** a piece of equipment which you use for cooking on in the open air
7) blister	**g.** difficult and unpleasant
8) lesbian	**h.** to provoke someone to do something through (often false or exaggerated) promises or persuasion
9) barbecue	**i.** homosexual women
10) lawnmower	**j.** a small area in a desert where water and plants are found
11) arson	**k.** to burn the dead body, usually as part of a funeral service
12) oasis	**l.** a painful swelling on the surface of your skin
13) scuffle	**m.** a system of organizing people into different ranks or levels of importance, for example in society or in a company
14) hierarchy	**n.** the crime of deliberately setting fire to a building or vehicle
15) cremate	**o.** a short, disorganized fight or struggle

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	(　　)	A. flea	B. wasp	C. mosquito	D. franc
2)	(　　)	A. dungaree	B. petticoat	C. pyjamas	D. duvet
3)	(　　)	A. Zimbabwe	B. Halloween	C. Bangladesh	D. Zambia
4)	(　　)	A. hexagon	B. perspex	C. triangle	D. oval
5)	(　　)	A. blackbird	B. canary	C. bulletin	D. magpie



Unit 7
Artificial Intelligence



Section I
Focus on Supporting Details

In addition to topic sentences expressing main ideas, paragraphs also include major and minor supporting details. Because topic sentences are general sentences that sum up or interpret a variety of events, facts, examples, or experiences, they are subject to misunderstanding. Writers, therefore, use supporting details to avoid being misinterpreted or misunderstood. Supporting details are the writer's way of saying to readers, "I mean this, not that." This part describes supporting details and presents three techniques that will help you take study notes on main ideas and their supporting details: outlining, mapping, and summarizing.

What Are Supporting Details?

Supporting details are reasons, examples, facts, steps, or other kinds of evidence that explain a main idea. In the paragraph below, three major details support the main idea that many people are strangely passive when they visit a doctor. As you read the paragraph, try to identify the three major details.

Many people are strangely passive when they visit a doctor. First of all, they often fail to provide the doctor with complete information about their medical problem. They may barely describe their symptoms, believing that a skilled doctor—like a master car mechanic—will somehow easily be able to diagnose what is wrong with them. Secondly, many people fail to ask their doctors for a full and clear explanation of their condition. They don't want to appear ignorant in front of their "all-knowing" doctor, and they don't want to take up too much of this Important Person's time, so they say little and ask almost nothing. Last of all, they often fail to understand a doctor's orders. Studies show that many patients don't understand why they should take a certain medication or for how long they should take it. Incredibly enough, some patients are not even sure, as they are about to be rolled into an operating room, why they are having surgery!

Explanation:

Main idea: Many people are strangely passive when they visit a doctor.

Supporting detail 1: Patients fail to provide enough information about their problem.

Supporting detail 2: Patients fail to get a full explanation of their problem.

Supporting detail 3: Patients fail to understand a doctor's orders.

Understanding Major and Minor Details

There are often two levels of supporting details—major and minor. The **major details** explain and develop the main idea. In turn, the **minor details** help fill out and make clear the major details.

In the paragraph below, the main idea is stated in the first sentence. The major details are in turn supported by minor details, which are examples in this case. The first major detail is followed by three examples, and the second major detail is followed by one long example.

There are two ways to relate to people in our lives. One way is to see them as objects: we get something from them, but we are not concerned with how they feel. They are there only for our use. For example, we might treat as an object the person who sells us items in a convenience store or waits on us in a restaurant or even teaches a class we are taking. The second way we can see people is as subjects, letting ourselves be aware that they have feelings just as we do. There is a story about a British woman who was expecting important guests for tea one afternoon. She looked out from her front porch after lunch and was horrified to see that her gardener had not shown up for work. When he finally arrived, she tore into him. "Do you know who is coming here in an hour? I ought to fire you!" Without looking up, the man quietly said, "I'm sorry. My little girl died during the night, and we had to bury her today." For the first time, the woman saw the man as a human being, not simply as a device for keeping her lawn attractive. He stopped being an object and became a subject, a possessor of feelings, needs, pains, and relationships to which she had never given a thought.

Outlining

Preparing an outline of a passage will help you understand and see clearly the relationship between a main idea and its supporting details. Outlines start with a main idea (or a heading that summarizes the main idea) followed by major supporting details. Sometimes there will be a level of minor details as well.

The following tips will help you prepare outlines:

Tip 1 Look for words that tell you a list of details is coming. Here are some common list words.

List words

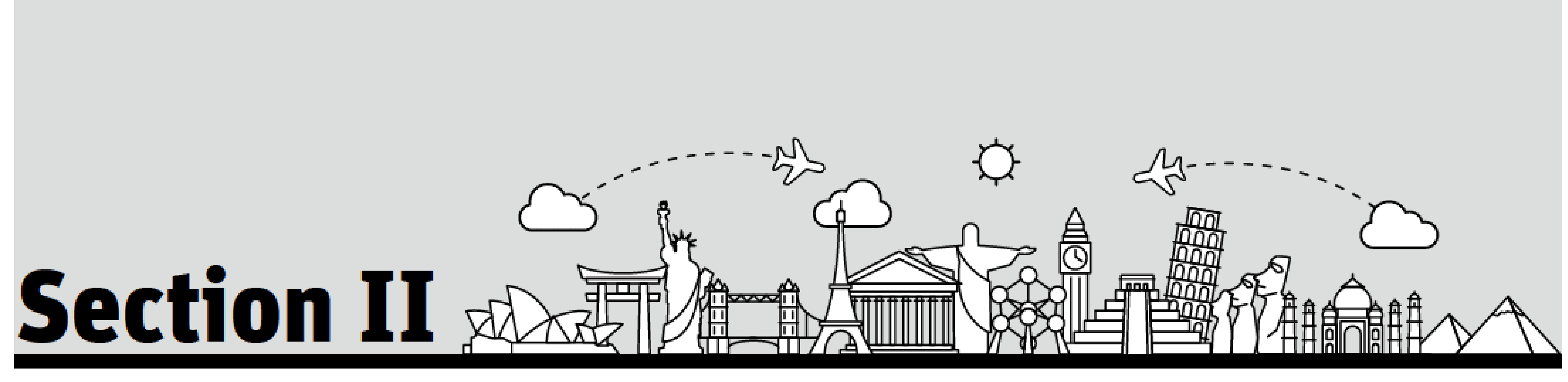
several kinds of
a number of factors
a series of factors
four steps
among the results

Mapping

Students sometimes find it helpful to use maps rather than outlines. Maps, or diagrams, are highly visual outlines in which circles, boxes, or other shapes show the relationships between main ideas and supporting details. Each major detail is connected to the main idea. If minor details are included, each is connected to the major detail it explains.

Summarizing

A summary is the reduction of a large amount of information to its most important points. The length and kind of summary will depend upon one's purpose as well as on the material in question. Often, a summary will consist of a main idea and its major supporting details. As a general guideline, a paragraph might be reduced to a sentence or two, an article might be reduced to a paragraph, and a textbook chapter might be reduced to about three pages of notes. One of the most common types of summarizing occurs when you are taking study notes on textbook material. Very often you will find it helpful to summarize examples of key terms.



Section II

Text A: A Robot in Every Home

Part 1　Power of Words

Core Words

① **gadget** ['gædʒɪt] ***n.***

A gadget is a small machine or device which does something useful; You sometimes refer to something as a gadget when you are suggesting that it is complicated and unnecessary.

synonym　device; tool; implement; appliance; contraption

word family　gadgetry; gadgeteer

Example 1　Sales of kitchen gadgets include toasters, kettles, and percolators.

Example 2　They need a neat gadget for sharpening knives.

② **concise** [kən'saɪs] ***adj.***

Something that is concise says everything that is necessary without using any unnecessary words.

synonym　brief; short; to the point; succinct

antonym　verbose

related phrase　concise summary

Example 1　Burton's text is concise and informative.

Example 2　Your summary should be as clear and concise as possible.

③ **enthusiast** [ɪn'θu:zɪæst] ***n.***

An enthusiast is a person who is very interested in a particular activity or subject and who spends a lot of time on it.

synonym　fan; fanatic; buff; aficionado; devotee; zealot

word family　enthusiastic; enthusiastically

related phrase　baseball/outdoor/sailing enthusiast

Example 1　He is a great sports enthusiast.

Example 2　Most people also find out that I am a gun enthusiast, and work at a local shooting range.

④ **equate** [ɪ'kweɪt] ***vt.*** **(equated/equated/equating)**

If you equate one thing with another, or if you say that one thing equates with another, you believe that they are strongly connected.

synonym　even up

antonym contrast
related phrase equate sth. with; equate to

Example 1 I'm always wary of men wearing suits, as I equate this with power and authority.

Example 2 The author doesn't equate liberalism and conservatism.

⑤ **scrutiny** ['skruːtənɪ] ***n.***

If a person or thing is under scrutiny, they are being studied or observed very carefully.

synonym observation; monitoring; surveillance; watch
word family scrutinize
related phrase public/careful/close/official/strict/congressional scrutiny; come under/undergo/survive scrutiny

Example 1 His private life came under media scrutiny.

Example 2 Careful scrutiny of the company's accounts revealed a whole series of errors.

⑥ **coarse** [kɔːs] ***adj.***

having a rough surface that feels slightly hard

synonym rough; crude; uneven; abrasive
antonym smooth
word family coarsely; coarseness; coarsen
related phrase coarse grain/language

Example 1 His shirt and pants were made of coarse fabric.

Example 2 Transfer the broiled ingredients to a food processor and process into a coarse puree.

⑦ **bobble** ['bɒbl] ***vi./vt.*** **(bobbled/bobbled/bobbling)**

If a player bobbles a ball, they drop it or fail to control it.

synonym bob; dip; jog; nod; fumble

Example 1 The ball was bobbled momentarily, allowing Holloway to race home.

Example 2 The ball bobbled on the ground.

⑧ **crux** [krʌks] ***n.***

The crux of a problem or argument is the most important or difficult part of it which affects everything else.

synonym root; bottom; heart; core; nub; key; lynchpin
related phrase the crux of sth.

Example 1 He said the crux of the matter was economic policy.

Example 2 How do we prevent a flood occurring again? That's the crux of the matter.

⑨ **convergence** [kən'vɜːdʒəns] ***n.***

The convergence of different ideas, groups, or societies is the process by which they stop being

different and become more similar.

synonym	meeting; junction; union; conjunction
antonym	divergence
word family	converge; convergent; converging

Example 1 The country needs to move towards greater economic convergence.

Example 2 The convergence of these industries puts San Diego in a position to create the next significant breakthrough in healthcare.

⑩ **mediocre** [ˌmiːdɪ'əʊkə] ***adj.***

If you describe something as mediocre, you mean that it is of average quality but you think it should be better.

synonym	middling; average; unexceptional; ordinary; second rate
antonym	excellent
word family	mediocrity
related phrase	a mediocre student; a mediocre level

Example 1 His school record was mediocre.

Example 2 I thought the book was pretty mediocre.

⑪ **periphery** [pə'rɪfərɪ] ***n.*** **(*pl.* peripheries)**

If something is on the periphery of an area, place, or thing, it is on the edge of it.

synonym	margin; suburb; outskirts; edge; sideline; border; fringe
antonym	center
word family	peripheral; peripherally
related phrase	on/at the periphery (of sth.)

Example 1 Taste buds are concentrated at the tip and rear of the tongue and around its periphery.

Example 2 There is a residential area on the periphery of the city.

⑫ **mythology** [mɪ'θɒlədʒɪ] ***n.*** **(*pl.* mythologies)**

Mythology is a group of myths, especially all the myths from a particular country, religion, or culture.

synonym	legends; folklore; tradition; mythos; lore; fairy story; fairy tales
word family	mythological; mythical; mythic; myth; mythologist; mythicize
related phrase	Greek mythology

Example 1 In Greek mythology, the god Zeus took the form of a swan to seduce Leda.

Example 2 In ancient mythology there was no impassable gulf separating the divine from the human beings.

⑬ **receptive** [rɪ'septɪv] ***adj.***

Someone who is receptive to new ideas or suggestions is prepared to consider them or accept them.

synonym	open; amenable; accessible; approachable

antonym hostile
word family receptiveness; receive; received; receptively; reception; receptionist; receptor; receptivity
related phrase receptive audience; receptive to sth.

Example 1 The voters had seemed receptive to his ideas.

Example 2 You might find them in a more receptive mood tomorrow.

⑭ **counterpart** ['kaʊntəpɑːt] ***n.***

Someone's or something's counterpart is another person or thing that has a similar function or position in a different place.

synonym equal; equivalent; opposite number
related phrase Chinese/American/Russian/British/French counterpart; meet one's counterpart

Example 1 As soon as he heard what was afoot, he telephoned his German and Italian counterparts to protest.

Example 2 Belgian officials are discussing this with their French counterparts.

⑮ **astronomical** [ˌæstrə'nɒmɪkl] ***adj.***

If you describe an amount, especially the cost of something as astronomical, you are emphasizing that it is very large.

synonym tremendous; infinite; astral
antonym affordable
word family astronomically; astronomic; astronomy; astronomer; astronavigation
related phrase astronomical figure

Example 1 Houses in the subdivision are going for astronomical prices.

Example 2 When he took a wife and four children from the beginning of time, he decided to repay the astronomical deposits.

⑯ **ambiguity** [ˌæmbɪ'gjuːətɪ] ***n.***

If you say that there is ambiguity in something, you mean that it is unclear or confusing, or it can be understood in more than one way.

synonym vagueness; opacity; uncertainty; haziness; doubt; indistinctness
antonym clarity
word family ambiguously

Example 1 There is considerable ambiguity about what this part of the agreement actually means.

Example 2 There was an element of ambiguity in the president's reply.

⑰ **peril** ['perəl] ***n.***

Perils are great dangers.

synonym danger; threat; risk; hazard; jeopardy; venture; adventure

antonym	safety
word family	perilous; perilously
related phrase	in peril; great/grave/serious peril; at the peril of

Example 1 In spite of great peril, I have survived.

Example 2 They put their own lives in peril to rescue their friends.

⑱ **allocate** ['æləkeɪt] ***vt.*** **(allocated/allocated/allocating)**

If one item or share of something is allocated to a particular person or for a particular purpose, it is given to that person or used for that purpose.

synonym	assign; allot; apportion; distribute
word family	allocable; allocation; allocator
related phrase	allocate space/resource/time

Example 1 Tickets are limited and will be allocated to those who apply first.

Example 2 The 1985 federal budget allocated $7.3 billion for development programmes.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

Afghan	afoot	align	canon	capitalize
converge	debris	denominator	disposition	disuse
diversion	frugal	heron	homemade	Iraq
Lego	lust	mainframe	orchestrate	pertain
quantum	redesign	robot	sparse	summit
undertaker	veteran	vogue	wart	weekday
whoosh	wireless			

Part 2 Text

A Robot in Every Home

Imagine being present at the birth of a new industry. It is an industry based on groundbreaking new technologies, wherein a handful of well-established corporations sell highly specialized devices without business disuse and a fast-growing number of start-up companies produce redesigned toys, gadgets for hobbyists and other interesting niche products. But it is also a highly debris industry with few common canons or platforms. Projects are not concise, progress is slow, and practical applications are relatively sparse. In fact, for all the excitement and promise, no one can say with any certainty when this industry will achieve critical mass. If it does, though, it may well change the world. Certainly this could be capsuled the computer industry during the mid-1970s. Back then, big, barely frugal computers ran the back-office operations for major companies, government departments and other institutions. Researchers at leading universities and

laboratories were creating the basic building blocks that would make the information age possible. Intel had just introduced the 8080 microprocessor, and Atari[1] was selling the popular electronic gam Pong. At homemade computer clubs, enthusiasts struggled to figure out exactly what this new technology was good for. But what I really have in mind is something much more contemporary: the emergence of the afoot robotics industry, which is developing in much the same way that the computer business did 30 years ago. The manufacturing robots currently used on automobile assembly lines equate yesterday's mainframes. The industry's niche products include robotic arms that perform surgery, scrutiny robots deployed in Iraq and Afghanistan that are in the disposition of roadside bombs, and domestic robots that vacuum the floor. Electronics companies have made robotic toys that can imitate people or gods or dinosaurs, and hobbyists with strong lust get their hands on the latest version of the Lego robotics system. Meanwhile some of the world's best minds are trying to solve the toughest problems of robotics such as visual recognition, navigation and machine learning. And they are succeeding. At the 2004 Defense Advanced Research Project Agency (DARPA) Grand Challenge, a competition to produce the first robotic vehicle capable of navigating autonomously over a coarse 142-mile course through the Mojave Desert, the summit competitor managed to travel just 7.4 miles before bobbling. In 2005, the race's winner did it at denominator of 19.1 miles an hour. (In another intriguing parallel between the robotics and computer industries, DARPA also capitalized the work that led to the creation of Arpanet, the precursor to the Internet.) What's more, the challenges facing the robotics industry are similar to those we tackled in computing three decades ago. Robotics companies have no standard operating software that could allow vogue application programs to run in a variety of devices. Despite these cruxes, when I talk to people involved robotics—from university researchers to undertakers, hobbyists and high school students—the level of excitement and expectation reminds me so much of that time when Paul Allen and I looked at the convergence of new technologies and dreamed of the day when a computer would be on every desk and in every home. And as I look at the trends that are now starting to converge, I can envision a future in which robotic devices will become a nearly mediocre part of our weekday lives. We may be on the periphery of a new era, when the PC will get up off the desktop and allow us to see, hear, touch and manipulate objects in places where we are not physically present.

From Science Fiction to Reality

People have envisioned creating robot-like devices for thousands of years. In Greek and Roman mythology, the gods of metalwork built mechanical servants made from gold. In the first century A.D., Heron of Alexandria designed intriguing automatons, including one said to have the ability to talk. Leonardo da Vinci[2]'s 1459 sketch of a mechanical knight, which could sit up and whoosh its arms and legs, is considered to be the first plan for humanoid robot. Over the past century, anthropomorphic machines have become familiar figures in popular culture through books, movies and television shows. The popularity of robots in fiction indicates that people are receptive to the idea that these machines will one day walk among us as helpers and even as companions. Nevertheless, although robots play a vital role in industries, the fact is that we have a long way to go before real robots catch up with their science-fiction counterpart. One reason for this gap is that it has been much harder than expected to enable computers and robots to sense their surrounding environment and to react quickly and accurately. It has proved extremely difficult to give robots the capabilities that humans take for granted. Even something as simple as telling the

difference between an open door and a window can be devilishly tricky for a robot. But researchers are starting to find the answers. One trend that has helped them is the increasing availability of astronomical amounts of computer power. One megahertz of processing power, which cost more than $7,000 in 1970, can now be purchased for just pennies. The price of a megabit of storage has seen a similar decline. The access to cheap computing power has permitted scientists to work on many of the hard problems that are fundamental to making robots practical. As computing capacity continues to expand, robot designers will have the processing power they need to tackle issues of ever greater complexity. Another barrier to the development of robots has been the high cost of hardware. But prices are dropping fast. Laser range finders that are used in robotics to measure distance with precision cost about $2,000. And new, more accurate sensors based on ultrawideband radar are available for even less. Now robot builders can also add Global Positioning System chips, video cameras, alignment microphones and a host of additional sensors for a pertaining expense. The resulting enhancement of capabilities, combined with expanded processing power and storage, allows today's robots to do things and tasks that would have been impossible for commercially produced machines' just a few years ago.

A Basic Approach

In February 2004 I visited a number of leading universities to talk about the powerful role that computers can play in solving some of society's most pressing problems. I asked Tandy Trower, a 25-year Microsoft veteran, to go on an extended fact-finding mission and to speak with people across the robotics community. What he found was universal enthusiasm for the potential of robotics. Tandy wrote in his report to me after his fact-finding mission. "As Red Whittaker, leader of Carnegie Mellon's entry in the DARPA Grand Challenge, recently indicated, the hardware capability is mostly there; now the issue is getting the software right." Back in the early days of the personal computer, we realized that we needed an ingredient that would allow all of the pioneering work to achieve critical mass, to coalesce into a real industry capable of producing truly useful products on a commercial scale. What was needed was Microsoft BASIC[3]. When we created this programming language in the 1970s, we provided the common foundation that enabled programs developed for one set of hardware to run on another. BASIC also made computer programming much easier, which brought more and more people into the industry. Although a great many individuals made essential contributions to the development of the personal computer, Microsoft BASIC was one of the key catalysts for the software and hardware innovations that made the PC revolution possible. After reading Tandy's report, it seemed clear to me that before the robotics industry could make the same kind of quantum leap that the PC industry make 30 years ago, it, too, needed to find that missing ingredient. So I asked him to assemble a small team that would work with people in the robotics field to create a set of programming tools that would provide the essential plumbing so that anybody interested in robots with even the most basic understanding of computer programming could easily write robotic applications that would work with different kinds of hardware. The goal was to see if it was possible to provide the same kind of common, low-level foundation for integrating hardware and software into robot designs that Microsoft BASIC provided for computer programmers. Today's robotics group has been able to draw on a number of advanced technologies developed by a team working under the direction of Craig Mundie, Microsoft's chief research and strategy officer. One such technology will help solve one of the most difficult problems facing robot designers: how to simultaneously handle all the data coming in from multiple sensors and send the

appropriate commands to the robot's motors, a challenge known as concurrency. A conventional approach is to write a traditional, single-threaded program—a long loop that first reads all the data from the sensors, then processes this input and finally delivers output that determines the robot's behavior, before starting the loop all over again. The warts are not of ambiguity: if your robot has fresh sensor data indicating that the machine is at the edge of a peril, but the program is still at the bottom of the loop calculating trajectory and telling the wheels to turn faster based on previous sensor input, there is a good chance the robot will fall down the stairs before it can process the new information. Concurrency is a challenge that extends beyond robotics. Today as more and more applications are written for distributed networks of computers, programmers have struggled to figure out how to efficiently orchestrate code running on many different servers at the same time. To fully exploit the power processors working in parallel, the new software must deal with the problem of concurrency. One approach to handling concurrency is to write multi-threaded programs that allow data to travel along many paths. But as any developer who has written multi-threaded code can tell you, this is one of the hardest tasks in programming. The answer that Craig's team has devised to the concurrency problem is something called the concurrency and coordination runtime (CCR). The CCR is a library of functions that makes it easy to write multi-threaded applications that can coordinate a number of simultaneous activities. Designed to help programmers take advantage of the power of multicore and multiprocessor systems, the CCR turns out to be ideal for robotics as well. By drawing on this library to write their programs, robot designers can dramatically reduce the chances that one of their creations will run into a wall because its software is too busy sending output to its wheels to read input from its sensors. In addition to tackling the problem of concurrency, the work that Craig's team has done will also simplify the writing of allocated robotic applications through a technology called diversion software services (DSS). DSS enables developers to create applications in which the services operate as separate processes that can be orchestrated in much the same way that text, images and information from several servers are aggregated on a Web page. Because DSS allows software components to run in isolation from one another, if an individual component of a robot fails, it can be shut down and restarted without having to reboot the machine. Combined with broadband wireless technology, this architecture makes it easy to monitor and adjust a robot from a remote location using a Web browser. What is more, a DSS application controlling a robotic device does not have to reside entirely on the robot itself but can be distributed across more than one computer. As a result, the robot can be relatively inexpensive device that delegates complex processing tasks to the high-performance hardware found on today's home PCs. I believe this advance will pave the way for an entirely new class of robots that are essentially mobile, wireless peripheral devices that tap into the power of desktop PCs to handle processing-intensive tasks. And because these devices can be networked together, we can expect to see the emergence of groups of robots that can work in concert to achieve goals. These technologies are a key part of Microsoft Robotics Studio[4], a new software development kit built by Tandy's team. Microsoft Robotics Studio also includes tools that make it easier to create robotic applications using a wide range of programming languages. One example is a simulation tool that lets robot builders test their applications in a three-dimensional virtual environment before trying them out in the real world. Our goal is to create an affordable, open platform that allows robot developers to readily integrate hardware and software into their designs.

(Adapted from "A Robot in Every Home", http://www.cs.virginia.edu/~robins/A_Robot_in_Every_Home.pdf, written by Bill Gates)

Notes

① Atari

Atari is a corporate and brand name owned by several entities since its inception in 1972, currently by Atari Interactive, a subsidiary of the French publisher Atari, SA (ASA). The original Atari, Inc. founded in 1972 by Nolan Bushnell and Ted Dabney was a pioneer in arcade games, home video game consoles, and home computers.

② Leonardo da Vinci

Leonardo da Vinci was an Italian polymath whose areas of interest included invention, painting, sculpting, architecture, science, music, mathematics, engineering, literature, anatomy, geology, astronomy, botany, writing, history, and cartography. He has been variously called the father of palaeontology, ichnology, and architecture, and is widely considered one of the greatest painters of all time. He epitomised the Renaissance humanist ideal.

③ Microsoft BASIC

Microsoft BASIC is the foundation product of the Microsoft company. It first appeared in 1975 as Altair BASIC, which was the first BASIC by Microsoft and the first high level programming language available for the Altair 8800 microcomputer.

④ Microsoft Robotics Studio

Microsoft Robotics Studio is a development platform that provides some highly innovative functionality for those who are interested in building robots or applications that require extensive loosely-coupled distributed parallelism.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What is the main idea of the passage?
2) Why do we have a long way to go before real robots catch up with their science-fiction counterpart?
3) One of the most difficult problems facing robot designers is concurrency. What is concurrency? How do the researchers tackle the problem?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ Projects are complicated, progress is slow, and practical applications are considerably rare.
2) ________ Leonardo da Vinci is considered to be the first person to participate in humanoid robot.

3) ________ It was true that the PC industry needed to find that missing ingredient before the robotics industry could make the same kind of quantum leap.
4) ________ As any developer who has written multi-threaded code can tell you, this is one of the hardest tasks in programming and other processors.
5) ________ Our success is a simulation tool that lets robot builders test their applications in a three-dimensional virtual environment before trying them out in the real world.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

bonnet	turbo	trans	lathe	gearbox	piston	axle	bodywork
chassis	handbrake	homemade	sparse	concise	converge	receptive	

1) However, if a company has the world class technology, it will find a ________ market in China.
2) I'm looking forward to driving the car with the hot little ________ engine and six-speed manual.
3) We need to make sure that we pick the optimum combination of wheel, suspension, fin and ________ layout.
4) The sessions look at the use of punctuation, sentences, paragraph construction and ________ writing.
5) Air accident investigators found the helicopter had suffered a cracked shaft in the ________.
6) As labour costs ________ across new and old Europe, will the Logan remain a European car?
7) Despite those deals, weekend mall traffic was ________ and the percentage of people carrying shopping bags was very low.
8) It sells perfect picnic treats, including ________ bread and pastries, warm soups and fresh salads.
9) His parents were solidly working-class: his father was a ________ operator, while his mother was an accountant.
10) This drives the ________ back and forth so that it acts as an alternator, generating electricity.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) But what I really have in mind is something much more contemporary: the emergence of the afoot robotics industry, which is developing in much the same way that the computer business did 30 years ago.
2) We may be on the periphery of a new era, when the PC will get up off the desktop and allow us to see, hear, touch and manipulate objects in places where we are not physically present.
3) Nevertheless, although robots play a vital role in industries, the fact is that we have a long way to go before real robots catch up with their science-fiction counterpart.

4) Although a great many individuals made essential contributions to the development of the personal computer, Microsoft BASIC was one of the key catalysts for the software and hardware innovations that made the PC revolution possible.
5) Our goal is to create an affordable, open platform that allows robot developers to readily integrate hardware and software into their designs.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

skint	stilted	immaterial	conjure	overdo
spar	preamble	upkeep	unrest	overpower

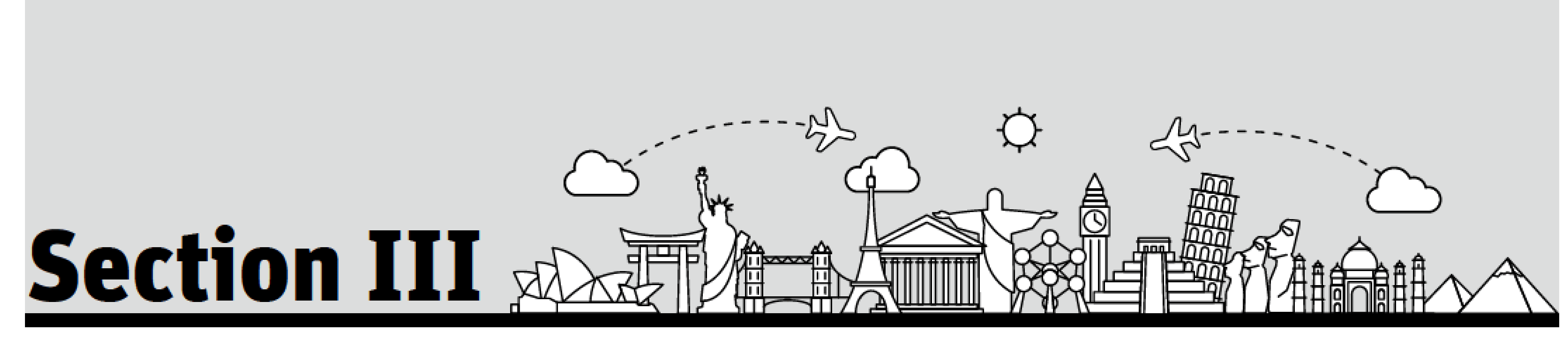
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) Pope	**a.** an economic system characterized by private
2) capitalism	**b.** a person appointed to be the official head
3) Buddha	**c.** a person devoted to some method
4) chairmanship	**d.** the religious faith of Muslims who profess belief in Allah
5) provost	**e.** a subordinate officer in a Christian church
6) methodist	**f.** the bishop of Rome as head of the Roman Catholic Church
7) freeman	**g.** something that is slow-moving
8) deacon	**h.** the master or head of a family
9) slug	**i.** a person who has attained Buddhahood
10) householder	**j.** one enjoying civil or political liberty
11) baptism	**k.** the office or status of a chairman
12) clientele	**l.** resembling large hips to make the hips seem hippier
13) hippy	**m.** admitting one into membership in a Christian church
14) socialism	**n.** the quality or state of being a client
15) Islam	**o.** aiming at collective or governmental ownership

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	(　　)	A. exchequer	B. infirmary	C. mot	D. greenbelt
2)	(　　)	A. bookcase	B. shutter	C. algebra	D. sideboard
3)	(　　)	A. psychiatric	B. demography	C. pathological	D. crib
4)	(　　)	A. Rottweiler	B. partridge	C. penguin	D. pheasant
5)	(　　)	A. rum	B. sip	C. soda	D. teabag



Section III

Text B: Hands-on Computing: How Multi-touch Screens Could Change the Way We Interact with Computers and Each Other

Part 1 Power of Words

Core Words

① **sprawl** [sprɔːl] ***n./vt.*** **(sprawled/sprawled/sprawling)**

You sprawl somewhere, you sit or lie down with your legs and arms spread out in a careless way.

synonym creep; spread

related phrase urban sprawl

Example 1 They sprawl at ease across the sofa, arms draped over the back.

Example 2 The whole urban sprawl of Ankara contains over 2.6 million people.

② **climax** ['klaɪmæks] ***n.*** **(*pl.* climaxes)**

The climax of something is the most exciting or important moment in it, usually near the end.

synonym height; summit; peak

antonym low

related phrase come to a climax; fire climax

Example 1 The fifth scene was the climax of the play.

Example 2 For Pritchard, reaching an Olympics was the climax of her career.

③ **thaw** [θɔː] ***vt./vi.*** **(thawed/thawed/thawing)**

When you thaw frozen food or when it thaws, you leave it in a place where it can reach room temperature so that it is ready for use.

synonym uncongeal; get warm

antonym freeze

related phrase thaw out

Example 1 The snow is beginning to thaw.

Example 2 At least this second meeting had helped to thaw the atmosphere.

④ **scribe** [skraɪb] ***vt.*** **(scribed/scribed/scribing)**

If you scribe something, it means you make notes of something.

synonym write down; note down; take down

word family scriber; scribbler

Example 1 You are also required to scribe one lecture of the course.

Example 2 Scribe the items in this category or what is included with these dishes.

⑤ **stubborn** ['stʌbən] ***adj.***

Someone who is stubborn or who behaves in a stubborn way is determined to do what they want and is very unwilling to change their mind.

synonym	persistent; dogged; tenacious; persevering; determined
antonym	half-hearted; flexible
word family	stubbornness; stubbornly
related phrase	stubborn resistance/refusal/determination; stubborn ills

Example 1 Even in the towns she met with stubborn resistance.

Example 2 This treatment removes the most stubborn stains.

⑥ **flimsy** ['flɪmzɪ] ***adj.***

A flimsy object is weak because it is made of a weak material, or is badly made; not very good or convincing

synonym	tender; slight
antonym	hard; tough; rigid
related phrase	flimsy guarantee; flimsy evidence

Example 1 Though this may seem a flimsy reason to you, it is reason enough for me.

Example 2 The storm flattened the flimsy wooden huts that the villagers lived in.

⑦ **punctual** ['pʌŋktʃuəl] ***adj.***

If you are punctual, you do something or arrive somewhere at the right time and are not late.

synonym	accurate; precise; strict; rigid

Example 1 You should be punctual for appointments.

Example 2 He stressed the point that we should be punctual.

⑧ **yank** [jæŋk] ***vt.* (yanked/yanked/yanking)**

If you yank someone or something somewhere, you pull them there suddenly and with a lot of force.

synonym	jerk; hoick
related phrase	yank sth. out/back/open

Example 1 He tried to yank his mind back out of fantasy.

Example 2 How do you know he won't wake up when you yank that thing out?

⑨ **anomaly** [ə'nɒməlɪ] ***n.* (*pl.* anomalies)**

If something is an anomaly, it is different from what is usual or expected.

synonym	abnormality; deviance
antonym	normality
word family	anomie; anomalous

related phrase physical anomaly

Example 1 The British public's wariness of opera is an anomaly in Europe.

Example 2 An anomaly exists in the case of an incompressible fluid.

⑩ **kink** [kɪŋk] ***vi./vt.*** **(kinked/kinked/kinking)**

If something kinks or is kinked, it has, or it develops, a curve or twist in it.

synonym twist
antonym straighten

Example 1 Take care to avoid kinking the wire.

Example 2 The water hose kinks a lot.

⑪ **glide** [glaɪd] ***vt.*** **(glided/glided/gliding)**

If you glide somewhere, you move silently and in a smooth and effortless way.

synonym slide
related phrase glide through/down

Example 1 Do you think we can glide down this glacier?

Example 2 We stood in silence watching the snake glide effortlessly.

⑫ **adjacent** [ə'dʒeɪsnt] ***adj.***

If one thing is adjacent to another, the two things are next to each other.

synonym nearby; neighbor
antonym distant; remote
related phrase adjacent station; adjacent channel

Example 1 The house adjacent to ours is under repair.

Example 2 Next, we need to define the region of adjacent cells.

⑬ **apex** ['eɪpeks] ***n.*** **(*pl.* apexes/apices)**

The apex of something is its pointed top or end.

synonym top; peak; summit
antonym low end
related phrase the apex of something

Example 1 He was at the apex of his career.

Example 2 The king was at the apex of society.

⑭ **cue** [kjuː] ***vt.*** **(cued/cued/cuing)**

If one cues another, they say or do something which is a signal for the second person to begin speaking, playing, or doing something.

synonym imply; remind
related phrase cue in

Example 1 Will you cue me on my lines?

Example 2 She coughed to cue him to come onto the stage.

⑮ **informative** [ɪn'fɔːmətɪv] ***adj.***

Something that is informative gives you useful information.

synonym	educational; revealing; useful; edifying; enlightening
word family	information
related phrase	informative advertising; informative speech

Example 1 Both men termed the meeting friendly and informative.

Example 2 Article content should be informative, easy to read and flow naturally for the reader.

⑯ **omit** [ə'mɪt] ***vt.*** **(omitted/omitted/omitting)**

If you omit something, you do not include it in an activity or piece of work, deliberately or accidentally.

synonym	elide; leave out; pass over; miss out; skip; exclude
word family	omission
related phrase	omit to do sth.

Example 1 You can omit this format information.

Example 2 Please don't omit to lock the door when you leave.

⑰ **glimpse** [glɪmps] ***vt.*** **(glimpsed/glimpsed/glimpsing)**

If you glimpse someone or something, you see them very briefly and not very well.

synonym	catch sight of
antonym	scrutinize
word family	glimmering
related phrase	glimpse of

Example 1 I glimpsed a figure at the window.

Example 2 For the first time she glimpsed the truth about her sister.

⑱ **layman** ['leɪmən] ***n.*** **(*pl.* laymen)**

A layman is a person who is not trained, qualified, or experienced in a particular subject or activity.

synonym	layperson; laypeople

Example 1 Where the law is concerned, I am only a layman.

Example 2 I'm a layman. What I'm going to say may expose myself to ridicule.

⑲ **fanatic** [fə'nætɪk] ***n.***

If you describe someone as a fanatic, you disapprove of them because you consider their behavior or opinions to be very extreme, for example, in the way they support particular religious or political ideas.

synonym fan; zealot

Example 1 I do not like prophets any more than I like fanatics who have never doubted their mission.

Example 2 I'm a big fan of this blog, which is written by a small group of fanatics like me.

⑳ **flounder** ['flaʊndə] ***vi.*** **(floundered/floundered/floundering)**

If you say that someone is floundering, you are criticizing them for not making decisions or for not knowing what to say or do.

synonym struggle along

Example 1 What a pity that his career was left to flounder.

Example 2 Sadly they are likely to flounder unless the Americans do more than just nudge them along.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

armchair	bandy	baron	catapult	conceal
concede	coop	cursor	emulate	ferment
forum	groom	hallway	laurel	manuscript
nutty	ordain	preoccupation	procession	prototype
scrabble	setup	teller	twinkle	

Part 2 Text

Hands-on Computing: How Multi-touch Screens Could Change the Way We Interact with Computers and Each Other

When Apple's iPhone[1] hit the streets last year, it introduced so-called multi-touch screens to the general public. Images on the screen can be moved around with a fingertip and made bigger or smaller by placing two fingertips on the image's edges and then either spreading hose fingers apart or bringing them closer together. The tactile pleasure the interface provides beyond its utility quickly brought it laurels. The operations felt intuitive, even sensuous. But in laboratories around the world at the time of the iPhone's launch, multi-touch screens had vastly outgrown two-finger commands. Engineers developed much larger screens that respond to 10 fingers at once, even to multiple hands from multiple people.

It is easy to imagine how photographers, graphic designers or architects—professionals who must manipulate lots of visual material and who often work in teams—would welcome this multi-touch computing. Yet the technology is already being applied in more sprawled situations in which anyone without any training can reach out during a brainstorming session and move or markup objects and plans.

Perceptive Pixels[2]

Jeff Han, a consulting computer scientist at New York University and founder of Perceptive Pixe in New York City, is at the climax of multi-touch technology. Walking into his company's lobby, one is greeted by a three-by-eight-foot flat screen. Han steps up the electronic wall and thaws a world of images using nothing but the touch of his fingers. As many as 10 or more video feeds can simultaneously, and there is no toolbar in sight. When Han wants the display to access different files he taps it twice, bringing up charts, menus that can also be tapped.

Several early adopters have purchased complete systems, including intelligence agencies that need to quickly compare geographically coordinated surveillance images in their war rooms. News anchors on CNN used a big Perceptive Pixel system during overage of the presidential primaries that boldly displayed all 50 U.S. states; to scribe voting results, the anchors, standing in front of the screen, dramatically zoomed in and out of states, even counties, simply by moving their fingers across the map. Looking ahead, Han expects the technology to find a home in graphically intense businesses such as energy trading and medical imaging.

Rudimentary work on multi-touch interfaces dates back to the early 1980s, according to Bill Buxton, a principal researcher at Microsoft Research. But around 2000, at NYU, Han began a journey to overcome one of the most technology's stubborn hurdles: Achieving fine resolution fingertip sensing. The solution required both hardware and software innovations.

Perhaps the most fundamental was exploiting an optical effect known as frustrated total internal reflection (FTIR), which is also used in fingerprint-recognition equipment. Han, who describes himself as "a very tactile person", became aware of the effect one day when he was looking through a full glass of water. He noticed how flimsily his fingerprint on the outside of the glass appeared when viewed through the water at a steep angle. He imagined that an electronic system could optically track fingertips placed on the face of a clear computer monitor. Thus began his six-year preoccupation with multi-touch interfaces.

He first considered building a very high resolution version of the single-touch screens used in automated teller machines and kiosks, which typically sense the electrical capacitance of a finger touching predefined points on the screen. But tracking a randomly moving finger would have required an insane amount of wiring behind the screen, which also would have limited the screen's functionality. Han ultimately devised a rectangular sheet of clear acrylic that acts like a waveguide, essentially a pipe for light waves. Light-emitting diodes (LEDs) around the edges pump infrared light into the sheet. The light streams through, reflecting internally off the sheet walls, much as light flows through an optical fiber. No light leaks out. But when someone places a finger on one face of the sheet, some of the internally reflecting light beams hit it and scatter off, bouncing through the sheet and out the opposite face. Cameras behind the screen sense this leaking light, or FTIR, revealing the location being touched. The cameras can track this leakage from many points at once.

Han soon discovered that the acrylic panel could also serve as a diffusion screen; a projector behind the panel, linked to a computer could beam images toward it, and they would bandy through to the other side. The screen could therefore serve as both an output of imagery input of touches made on that imagery.

Sensing the punctual location of fingers was one challenge.

Devising software routines that could track the finger movements and convert them to

instructions for what should be happening with images on the screen was tougher. The half a dozen software developers working with Han had to first write software that would function as a high-performance graphics engine, in part to give the display low latency, or ghosting, when fingers yanked objects quickly across the screen. Then they had to deal with the screen's anomaly FTIR light output from fingertips sweeping around in scrabble.

Deep in the architecture of a computer's operating system is an assumption that a user's input will come either from a keyboard or a mouse. Keystrokes are unambiguous; a "q" means "q". The movement of a mouse is expressed as Cartesian coordinates—x and y locations on a two-dimensional grid. Such methods for representing input belong to a general discipline known as the graphical user interface, or GUI. Han's multi-touch screen generates 10 or more streams of x and coordinates at the same time, and "the traditional GUIs are really not designed for that much simultaneity," he notes. The current operating systems—Windows, Macintosh, Linux—are so predicated on the single mouse cursor that "we had to tear up a lot of plumbing to make new multi-touch graphical framework," Han says.

During all this work, Han found that pressure sensing could be accomplished, too, by applying to the front of the acrylic screen a thin layer of polymer with microscopic ridges engineered into its surface. When a user presses harder or more softly on any spot on the polymer it kinks slightly, and the fingerprint area becomes larger or smaller, causing the scattered light to become brighter or darker, which the camera can sense. By maintaining firm pressure on an object on the screen, a user can glide it behind an adjacent object.

Han's Perceptive Pixel team, formed in 2006, put all the ferments together and demonstrated the system at the TED (for technology, entertainment and design) conference that year to a nutty audience. Since then, orders for the system have steadily creased. Perceptive Pixel is concealing prices.

Microsoft Scratches the Surface

While Han was perfecting his setup, engineers elsewhere were pursuing similar goals by different means. Software baron Microsoft is now grooming a smaller multi-touch computer called Surface and is trying to brand this category of hardware as "surface computers". The initiative dates back to 2001, when Stevie Bathiche of Microsoft Hardware and Andy Wilson of Microsoft Research began developing an interactive tabletop that could recognize certain physical objects placed on it. The two innovators envisioned that the tabletop could function as an electronic pinball machine, a video puzzle or a photo browser.

More than 85 prototypes later, the pair ended up with a table that has a clear acrylic top and houses a projector on the floor below. The projector sends imagery up onto the horizontal, 30-inch screen. An infrared LED shines light up to the tabletop as well, which catapults fingertips or objects on the other side, thus allowing the device to ordain from people's fingers. A Windows Vista[3] computer provides the processing.

Microsoft is shipping Surface table computers to four partners in the leisure, retail and entertainment industries, which it believes are most likely to apply the technology. Starwood Hotels[4] Sheraton chain for example, will try installing surface computers in hotel hallways that will let guests browse and listen to music, send home digital photographs, or order food and drinks. Customers in T-Mobile[5] U.S.A.'s retail stores will be able to compare different cell phone models

by simply placing them an apex surface screen; black-dotted "domino" tags on the undersides of the phones will cue the system to be informative on price, feature and phone plan details. Other Microsoft software will allow a wireless-enabled digital camera, when placed on a surface computer, to upload its photographic content to the computer with a cable.

First-generation surface systems are priced from $5,000 to $10,000. As with most electronic items, the company expects the price, to decline as production volume increases. Microsoft says Surface computers should be available at consumer prices in three to five years.

Mitsubishi[6] Wired in, too

Technology developers might be interested in the DiamondTouch[7] table from a start-up company called Circle Twelve in Framingham, Mass., that was recently spun off from Mitsubishi Electric Research Laboratories. The table, developed at Mitsubishi, is configured so that outside parties can write software for applications they envision; several dozen tables are already in the hands of emic researchers and commercial customers.

"The purpose of DiamondTouch is to support small-group collaboration," says Adam Bog, Mitsubishi's vice president of marketing. "Multiple people can interact, and the system knows who's who." Several people sit in armchairs that are positioned around and are linked to a computer below. When one of them touches tabletop, a procession of antennas embedded in the screen sends an extremely small amount of radio-frequency energy through the person's body and chair to a receiver in the computer, a scheme known as capacitive coupling. Alternatively, a special floor mat can be used to complete the circuit. The antennas that are coupled indicate the spot screen that the person is touching.

Though seemingly cooping, this setup can keep track of who makes what input, and it can give control to whoever touches the screen first. In that case it will omit other touches, glimpsed through the assigned seating, until the first user has completed his or her inputs. The system can also track who makes which annotations to images, as blueprints.

Parsons Brinckerhoff, a global engineering firm headquartered in New York City, has been experimenting with many manuscripts of the tables and plans. "We have thousands of forums during the course of a big project", says Timothy Case, the company's visualization department regional manager. "We could have multiple tables in multiple locations, and everybody can be looking at the same thing."

Both the DiamondTouch and Perceptive Pixel systems feature keyboard "emulators" that twinkle a virtual keyboard onto the screen so that people can type. But it seems unlikely that fanatics would prefer to use the dynamic systems for this layman activity. The strength of multi-touch is conceding multiple people work together on a non-monotony activity. It is hard to remember how liberating the mouse seemed when people floundered along keyboard arrow keys some 25 years ago. Soon the multi-touch interface could not handcuff us from the ubiquitous mouse. "It's very rare that you come upon a really new user interface," Han says. "We're just at the beginning of this whole thing."

(Adapted from "Hands-on Computing: How Multi-touch Screens Could Change the Way We Interact with Computers and Each Other", http://www.docin.com/p-773106940.html, written by Stuart F Brown)

Notes



iPhone

iPhone is a line of smartphones designed and marketed by Apple Inc.. They run Apple's iOS mobile operating system. The first-generation iPhone was released on June 29, 2007; and multiple new hardware iterations with new iOS releases have been released since.

The user interface is built around the device's multi-touch screen, including a virtual keyboard. The iPhone has Wi-Fi and can connect to cellular networks. An iPhone can shoot video (though this was not a standard feature until the iPhone 3GS), take photos, play music, send and receive email, browse the web, send and receive text messages, follow GPS navigation, record notes, perform mathematical calculations, and receive visual voicemail. Other functionality, such as video games, reference works, and social networking, can be enabled by downloading mobile apps. As of January 2017, Apple's App Store contained more than 2.2 million applications available for the iPhone.

Apple has released eleven generations of iPhone models, each accompanied by one of the eleven major releases of the iOS operating system. The original first-generation iPhone was a GSM phone and established design precedents, such as a button placement that has persisted throughout all releases and a screen size maintained for the next four iterations. The iPhone 8 and 8 Plus were released in 2017, adding a glass back and an improved screen and camera. The iPhone X was released alongside the 8 and 8 Plus, with its highlights being a near bezel-less design, an improved camera and a new facial recognition system, named Face ID, but having no home button, and therefore, no Touch ID.

The original iPhone was described as "revolutionary" and a "game-changer" for the mobile phone industry. Newer iterations have also garnered praise, and the iPhone's success has been credited with helping to make Apple one of the world's most valuable publicly traded companies.

② Pixels

In digital imaging, a pixel, dots, or picture element is a physical point in a raster image, or the smallest addressable element in an all points addressable display device; so it is the smallest controllable element of a picture represented on the screen. The address of a pixel corresponds to its physical coordinates. LCD pixels are manufactured in a two-dimensional grid, and are often represented using dots or squares, but CRT pixels correspond to their timing mechanisms.

③ Windows Vista

Windows Vista is an operating system by Microsoft for use on personal computers, including home and business desktops, laptops, tablet PCs and media center PCs. Development was completed on November 8, 2006 and over the following three months, it was released in stages to computer hardware and software manufacturers, business customers and retail channels. On January 30, 2007, it was released worldwide and was made available for purchase and download from the Windows Marketplace. The release of Windows Vista came more than five years after the introduction of its predecessor, Windows XP, the longest time span between successive releases of Microsoft Windows desktop operating systems. It was succeeded by Windows 7, which was released to manufacturing on July 22, 2009 and released worldwide for retail on

October 22, 2009.

④ **Starwood Hotels**

Starwood Hotels and Resorts Worldwide, LLC is an American hotel and leisure company headquartered in Stamford, Connecticut. One of the world's largest hotel companies, it owns, operates, franchises and manages hotels, resorts, spas, residences, and vacation ownership properties under its 11 owned brands.

⑤ **T-Mobile**

T-Mobile International AG was a German holding company for Deutsche Telekom AG's mobile communications subsidiaries.

⑥ **Mitsubishi**

The Mitsubishi Group is a group of autonomous Japanese multinational companies in a variety of industries. Its total revenue is about 1.4% of Japan's GDP.

⑦ **DiamondTouch**

The DiamondTouch table is a multi-touch, interactive PC interface product from Circle Twelve Inc.. It is a human interface device that has the capability of allowing multiple people to interact simultaneously while identifying which person is touching where.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What does "multi-touch screens" indicate in the title?
2) Jeff Han, as founder of Perceptive Pixel in New York City, made great contribution to multi-touch screen technology. Please illustrate his major achievements.
3) While Han was perfecting his setup, what other means were engineers elsewhere pursuing in order to attain similar goals?
4) What is the purpose of DiamondTouch?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ The multi-touch computing is already being applied in many situations in which anyone with little training can reach out during a brainstorming session and move or markup objects and plans.
2) ________ In 2000 Han succeeded in overcoming one of the most technology's headstrong hurdles—achieving fine resolution fingertip sensing.
3) ________ Han was the first to consider building a very high resolution version of the single-touch screens used in ATMs and vendors, which typically sense the electrical capacitance of a finger touching predefined points on the screen.

4) ________ When a user presses on the polymer it changes slightly, and the fingerprint area becomes larger or smaller, causing the scattered light to become brighter or darker, which the camera can sense.

5) ________ Parsons Brinckerhoff has been experiencing thousands of seminars to have multiple tables in multiple locations during the course of a big project.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

consortium	paintwork	scroll	atlas	artwork	chrome	carte	pallet
preoccupation	warp	stubborn	scribe	flimsily	glimpse	solder	

1) But the ________ has revealed a startling genetic diversity; different slabs of cortex are defined by entirely different sets of genes.
2) Through science, he says, we can ________ some basic structures of the reality beneath the veil, but much of it remains an infinite, eternal mystery.
3) He writes his Gospel to help people figure out how to imitate Jesus in being a good ________.
4) Learn to understand any ________ you come across in a fraction of the time it would take to get a degree in Art History.
5) Washington's ________ today with wars and terrorist threats has left inviting openings for China's advances in Southeast Asia.
6) That day, I've found as if I'd become staunchly. But at the same time I felt I was very ________.
7) Many are ________ in pursuit of the path they have chosen, few in pursuit of the goal.
8) Each sculptural planter is made-to-order with handmade glass and lead-free ________ and comes with everything you need but the plants.
9) When all the header information for calendar entries cannot be displayed completely for a day in a calendar view, the day displays a horizontal ________ bar.
10) In his theory of general relativity, Einstein realized that space and time can stretch and ________ in ways that change the trajectory of light.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Han, who describes himself as "a very tactile person", became aware of the effect one day when he was looking through a full glass of water.
2) Devising software routines that could track the finger movements and convert them to instructions for what should be happening with images on the screen was tougher.
3) More than 85 prototypes later, the pair ended up with a table that has a clear acrylic top and houses a projector on the floor below.
4) When one of them touches tabletop, a procession of antennas embedded in the screen sends an extremely small amount of radio-frequency energy through the person's body and chair to a

receiver in the computer, a scheme known as capacitive coupling.

5) Both the DiamondTouch and Perceptive Pixel systems feature keyboard "emulators" that twinkle a virtual keyboard onto the screen so that people can type.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

inverse	limbo	slit	tar	flaw	swipe
acrobat	lumber	indigenous	dagger	eccentric	

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

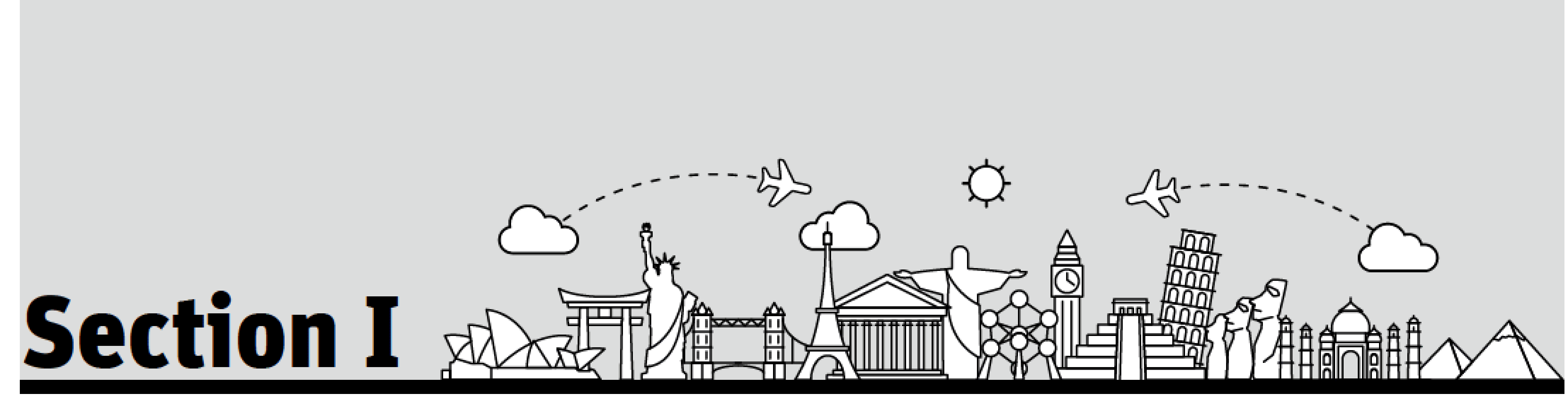
1) lan	**a.** a bed covering made of two layers of cloth
2) sole	**b.** the undersurface of a foot which is placed on the ground in walking
3) nude	**c.** a lightweight suit of clothing worn by athletes
4) tracksuit	**d.** local area network
5) denim	**e.** any of numerous synthetic materials consisting of polyamides
6) handset	**f.** casual photograph made by rapid exposure
7) reset	**g.** a coarse durable twill-weave cotton fabric
8) nylon	**h.** to cover with or to bob and shape or to lay or dispose
9) switchboard	**i.** devoid of clothing
10) quilt	**j.** a telephone mouthpiece and earpiece and the respective microphone
11) paperback	**k.** to set again or afresh
12) charcoal	**l.** an apparatus consisting of a panel, an assembly of panels
13) shingle	**m.** made without rounding, backing and usually trimmed flush
14) twiddle	**n.** to be busy with trifles
15) snapshot	**o.** a stick of black carbon material used for drawing

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	( )	A. moth	B. alligator	C. jay	D. Nazi
2)	( )	A. minster	B. backbench	C. cockney	D. Iceland
3)	( )	A. excise	B. courier	C. housekeeper	D. headmistress
4)	( )	A. maniac	B. brigadier	C. neurotic	D. nutter
5)	( )	A. proprietor	B. newsagent	C. testicle	D. blacksmith



Unit 8
History and Religion



Section I
Focus on Inferences

Inferences are evidence-based guesses. They are the conclusions a reader draws about the unsaid based on what is actually said. Inferences drawn while reading are much like inferences drawn in everyday life. If your best friend comes in from a blind date and looks utterly miserable, you would probably infer the date was not a success. Drawing inferences while you read requires exactly the same willingness to look at the evidence and come to a conclusion that has not been expressed in words. Only in reading, the evidence for your inference consists solely of words rather than actual events, expressions, or gestures.

Inferring is the ability to "read between the lines" or to get the meaning an author implies but does not state directly. Virtually all comprehension strategies involve inferring in the sense that comprehension requires readers to note text clues, to access prior knowledge associated with those clues, and then, on the basis of that background knowledge, predict (or infer) what the meaning is. So, in this sense, inferring is something a reader does as part of all comprehension strategies. Stated another way, comprehension always involves trying to "get inside the author's head" to see what he or she really meant when the text was composed. The reader, operating from one set of background experiences, cannot precisely know the mind of an author, who is operating from a different experience background. The reader must make a calculated guess as to an author's meaning. In a sense, virtually all comprehension requires inference, and students should learn from the very beginning that reading is a matter of actively inferring meaning, based on prior knowledge about text information.

Drawing Inferences to Construct Topic Sentences

Inferences can play an important role in the reading paragraph. When necessary, they fulfill the function of supporting details. As it turns out, inferences are even more important in paragraphs in which the author suggests but does not state the main idea in a single topic sentence. Sometimes, for example, writers do not express the main idea in one sentence. Instead, they put parts of the main idea into separate sentences and leave it to readers to weave the sentences together into a statement of the implied main idea.

Inferring Main Ideas

Sometimes writers don't give readers even parts of topic sentences. Instead, they supply a series of specific statements designed to lead readers to the implied main idea of the paragraph.

Here are five types of paragraphs likely to imply the main idea.

1) Just the Facts

When a writer describes an event or experience by piling up specific details without including a topic sentence that interprets or evaluates them, you need to infer the main idea implied by the

author.

2) Question and Answer

Writers sometimes open a paragraph with a question that immediately gets answered by the topic sentence. Frequently, however, the opening question can't be answered in a single sentence. In this case, writers leave it up to readers to infer the answer, which is also the implied main idea. When the opening question of a paragraph is not followed by an immediate answer, it's usually the reader's job to infer an answer that is also the implied main idea.

3) Competing Points of View

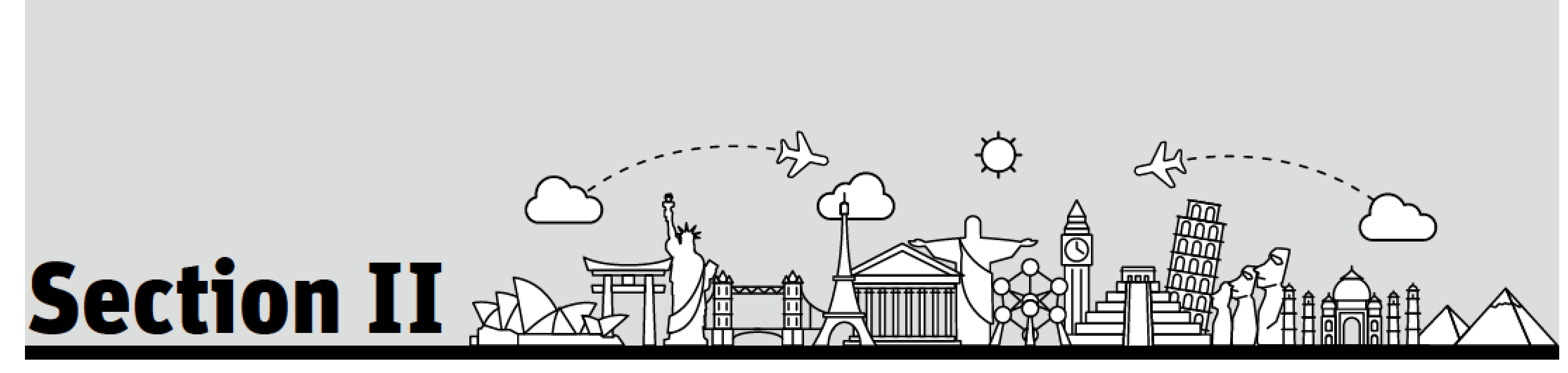
Paragraphs that offer competing points of view about the same event or series of events without saying which point of view is more accurate are usually implying, rather than stating, the main idea. When the author offers several competing points of view without evaluating them, you need to infer a main idea that express the variety of opinion concerning the issue, person, or event under discussion.

4) Comparison and Contrast

In a comparison-and-contrast paragraph, the writer points out similarities or differences—or both—between two people, events, objects, or ideas. Sometimes the main idea is stated in a topic sentence. But, frequently the author lets the similarities and differences speak for themselves. If a paragraph lists similarities and differences between two topics but doesn't tell you what those similarities and differences mean or how to evaluate them, you need to infer a main idea which makes a general point that can include all or most of them.

5) Results of Research

Writers frequently use research to prove a point. However, sometimes they simply cite research and assume readers will figure out what theory or idea the research supports. In the following paragraph, note how the author lets the research results lead readers to her implied main idea. If the author cites research but doesn't interpret the result, you need to infer what the research results suggest about the problem or issue under study.



Section II

Text A: Climate and Human History

Part 1 Power of Words

Core Words

① **sprout** [spraʊt] ***vi.*** **(sprouted/sprouted/sprouting)**

When plants, vegetables, or seeds sprout, they produce new shoots or leaves.

synonym	shoot; bud; leaf
antonym	wither
related phrase	bean sprout

Example 1 It only takes a few days for beans to sprout.

Example 2 Move the pots outside when the seeds begin to sprout.

② **courteous** ['kɜːtɪəs] ***adj.***

Someone who is courteous is polite and respectful to other people.

synonym	polite; well-mannered; considerate; chivalrous; civil
antonym	discourteous; rude

Example 1 The staff are always courteous and helpful.

Example 2 If you go to a restaurant, be courteous to the waiter or waitress.

③ **abbreviate** [ə'briːvɪeɪt] ***vt.*** **(abbreviated/abbreviated/abbreviating)**

If you abbreviate something, especially a word or a piece of writing, you make it shorter.

synonym	shorten; syncopate; abridge; condense; curtail; cut short
antonym	lengthen
word family	abbreviation; abbreviated; abbreviator
related phrase	be abbreviated to sth.

Example 1 The creators of the original *X-Men* abbreviated the title of its sequel to simply *X2*.

Example 2 "Information technology" is usually abbreviated to "IT".

④ **cull** [kʌl] ***vt.*** **(culled/culled/culling)**

If items or ideas are culled from a particular source or number of sources, they are taken and gathered together.

synonym	remove; get rid of; cast off; pick; select
antonym	retain

related phrase cull sth. from sth.

Example 1 The data had been culled from a variety of sources.

Example 2 All this, needless to say, had been culled second-hand from radio reports.

⑤ **twig** [twɪg] ***vt./vi.*** **(twigged/twigged/twigging)**

to find out or suddenly comprehend (something)

synonym understand; grasp; comprehend; get at; cotton on

word family twiggy

Example 1 He hasn't twigged yet.

Example 2 It took ages before he twigged.

⑥ **appertain** [ˌæpə'teɪn] ***vi.*** **(appertained/appertained/appertaining)**

to belong (to) as a part, function, right, etc.; relate (to) or be connected (with)

synonym relate; refer to; connect to; apply to; belong to

related phrase appertain to sth.

Example 1 A forum was set up to deal with all issues appertaining to Everton Park.

Example 2 The responsibilities that appertain to parenthood were discussed at the meeting.

⑦ **upheaval** [ʌp'hi:vl] ***n.***

An upheaval is a big change which causes a lot of trouble, confusion, and worry.

synonym disturbance; turmoil; disorder; confusion; cataclysm

antonym peace

word family upheave

related phrase social/political/great/tremendous upheaval; cause upheaval

Example 1 Algeria has been going through a political upheaval for the past two months.

Example 2 This must be carried out without social upheaval.

⑧ **impinge** [ɪm'pɪndʒ] ***vi.*** **(impinged/impinged/impinging)**

Something that impinges on you affects you to some extent.

synonym knock against; infringe on; impose; intrude; interrupt; encroach; invade

word family impingement; impinging

related phrase impinge on/upon sb./sth.

Example 1 Personal problems experienced by students may impinge.

Example 2 His every decision and act impinge directly upon his struggle for physical survival.

⑨ **heed** [hi:d] ***n.***

If you take heed of what someone says or if you pay heed to them, you pay attention to them and consider carefully what they say.

synonym attention; care; attentiveness

antonym disregard
word family heedless; heedful; heedfully; heedlessly; heedlessness

Example 1 The government was taking little heed of these threats.

Example 2 Tom paid no heed to her warning.

⑩ **hazy** ['heɪzɪ] ***adj.***

If you are hazy about ideas or details, or if they are hazy, you are uncertain or confused about them.

synonym misty; foggy; cloudy; obscure; blurred
antonym clear; distinct
word family hazily; haziness
related phrase hazy memory

Example 1 I'm a bit hazy about that.

Example 2 My memories of the holiday are rather hazy.

⑪ **humanity** [hju:'mænətɪ] ***n.*** **(*pl.* humanities)**

The humanities are the subjects such as history, philosophy, and literature which are concerned with human ideas and behaviour; All the people in the world can be referred to as humanity.

synonym humankind; people; human race
antonym cruelty
word family human; humanitarian; humane; humanistic; humanism; humanist; humanlike; humanely; humankind; humanitarianism; humanization; humaneness; humanise
related phrase humanity science; humanity spirit

Example 1 The number of students majoring in the humanities has declined by about half.

Example 2 It would not be the slightest bit of an overstatement to say that the study of humanities at its very core is man.

⑫ **ancestor** ['ænsestə] ***n.***

Your ancestors are the people from whom you are descended.

synonym forebear; antecedent; forefather; predecessor; progenitor
antonym descendant; successor
word family ancestral; ancestry
related phrase ancestor worship

Example 1 Our daily lives are so different from those of our ancestors.

Example 2 On Lunar New Year and the autumn harvest holiday Chuseok, the entire country takes part in ancestor rites.

⑬ **hiatus** [haɪ'eɪtəs] ***n.***

A hiatus is a pause in which nothing happens, or a gap where something is missing.

synonym pause; break; interruption; space; gap

related phrase a hiatus in research; a brief/short/long hiatus

Example 1 Diplomatic efforts to reach a settlement resume today after a two-week hiatus.

Example 2 Talks between the two countries have resumed after a six-year hiatus.

⑭ **succession** [sək'seʃn] ***n.***

Succession is the act or right of being the next person to have an important job or position.

synonym series; heritage; progression
word family succeed; successive; successively; successor; successiveness
related phrase in succession; quick/rapid/endless/orderly succession

Example 1 She is now the seventh in line of succession to the throne.

Example 2 She won the championship four times in succession.

⑮ **soar** [sɔː] ***vi.*** **(soared/soared/soaring)**

If the amount, value, level, or volume of something soars, it quickly increases by a great deal.

synonym rise; tower; fly; ascend
antonym sink; plummet; decrease
word family soaring

Example 1 Insurance claims are expected to soar.

Example 2 Shares soared on the New York stock exchange.

⑯ **fusion** ['fjuːʒn] ***n.***

A fusion of different qualities, ideas, or things is something new that is created by joining them together.

synonym melt; amalgamation; synthesis; combination; union; blend; mixture
word family fused; fusible

Example 1 His previous fusions of jazz, pop and African melodies have proved highly successful.

Example 2 Her work is a fusion of several different styles.

⑰ **perpetrate** ['pɜːpətreɪt] ***vt.*** **(perpetrated/perpetrated/perpetrating)**

If someone perpetrates a crime or any other immoral or harmful act, they do it.

synonym commit; carry out; pull off; do; be responsible for
word family perpetrator; perpetration

Example 1 A high proportion of crime in any country is perpetrated by young males in their teens and twenties.

Example 2 Who could have perpetrated such a dreadful crime?

⑱ **debut** ['deɪbjuː] ***n.***

The debut of a performer or sports player is their first public performance, appearance, or recording.

synonym	entrance; introduction; unveiling; presentation; inauguration
antonym	retirement
related phrase	make debut; film/acting/directorial debut; debut album/CD/single; debut match/performance

Example 1 She made her debut in a 1937 production of *Hamlet*.

Example 2 Their debut album was recorded in 1991.

⑲ **villain** ['vɪlən] ***n.***

A villain is someone who deliberately harms other people or breaks the law in order to get what he or she wants.

synonym	tough; bad guy; antihero; baddie; scoundrel; rogue; desperado
word family	villainous; villainy; villainage; villainess; villainousness
related phrase	the villain of the piece

Example 1 I left the room, feeling like a villain and a murderer.

Example 2 Blunt was a virtually innocent victim, we were told, and the only villain was the press.

⑳ **vex** [veks] ***vt.* (vexed/vexed/vexing)**

If someone or something vexes you, they make you feel annoyed, puzzled, and frustrated.

synonym	trouble; irk; annoy; displease; upset; irritate
antonym	pacify; placate; enlighten
word family	vexed; vexing; vexatious; vexation

Example 1 It vexed me to think of others gossiping behind my back.

Example 2 His conduct vexed her very much.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

axis	cite	disallow	distil	midway
mime	nominal	overboard	precipitate	radioactive
rainfall	regenerate	reservoir	skew	spate
stern	timescale	tomb	uphill	

Part 2 Text

Climate and Human History

When my graduate student career sprouted in the field of climate science 40 years ago, it was really not a "field". Scattered around the universities and laboratories of the world were people studying pollen grains, shells of marine plankton, records of ocean temperature and salinity, the

flow of ice sheets, and many other parts of the climate system, both in their modern form and in their past manifestations as suggested by evidence from the geologic record. A half-century before, only a nominal number of people were doing the work, mostly university-based or self-taught "courteous" geologists and geographers in Europe and the United States. Now and then, someone would organize a conference to bring together 100 or so colleagues and compare new findings across different disciplines.

Today, this field has changed beyond recognition. Hefty amounts of researchers worldwide explore aspects of the climate system, using aircrafts, ships, satellites, regenerate chemical and biological techniques, and high-powered computers. Geologists measure a huge range of processes on land and in the ocean. Geochemists trace the movement of materials and measure rates of climate changes. Meteorologists use numerical models to mime the circulation of the atmosphere and its interaction with the ocean. Ecologists and biological oceanographers investigate the roles of flora on land and plankton in the ocean. Climatologists track trends in climate over recent decades. Hundreds of groups with shorthand acronyms abbreviating their longer names hold meetings annually on certain aspect of climate. I am stern to say there are more groups with acronyms in climate science.

Studies of Earth's climate history utilize any material that contains a record of past climate: deep-ocean cores culled from seagoing research vessels, ice cores drilled by fossil-fuel machine power in the Antarctic or Greenland ice sheets by hand; coral samples distilled from tropical reefs. The intervals investigated vary from the geological past tens of millions of years ago to the recent historical past and changes occurring today.

These wide-ranging investigations have produced enormous progress in twigging climate change on every scale. For intervals lying in the more distant past, tens or hundreds of millions of years ago, changes in global temperature, regional precipitation, and the size of Earth's ice sheets have been appertaining to plate-tectonic reorganizations of Earth's surface such as movements of continents, upheaval and erosion of mountains and plateaus, and opening and closing of isthmus connections between continents. Over shorter intervals, cyclic changes in temperature, rainfall, and ice sheets over tens of thousands of years have been linked to subtle changes in Earth's orbit around the Sun such as the skew of its axis.

Some scientists regard the results of this ongoing study of climate history as the most recent of four great revolutions in earth science, although advances in understanding climate have come about gradually. In the 1700s James Hutton concluded that the Earth was an ancient planet with a long history of gradually accumulated changes produced mainly by processes working at slow rates. Only after about a century did Hutton's concept of an ancient planet displace the careful calculations of an archbishop in England who had added up the life spans of the patriarchs in the Bible and calculated that the Earth was formed on October 26 in 4004 BC. Today chemistry, physics, biology, and astronomy have all provided critical evidence in support of the geology-based conclusion that our Earth is very old indeed.

In 1859 Charles Darwin[1] published his theory of natural selection, based in part on earlier work showing that organisms have appeared and disappeared in an ever-changing but well-identified sequence throughout the immense interval of time for which we have the best fossil record. Darwin proposed that new species evolved as a result of slow natural selection for attributes that promote reproduction and survival. Although widely accepted in its basic outline, Darwin's

theory is still being challenged and enlarged by new insights. For example, only recently has it become clear that giant meteorites impinging on the Earth's surface also play a role in evolution by causing massive extinctions of most living organisms every few hundred million years or so. Each of these catastrophes opens up a spate of environmental niches into which the surviving species can evolve with little or no competition from other organisms.

The third great revolution, the one that eventually led to the theory of plate tectonics, began in 1912 when Alfred Wegener[2] proposed the concept of continental drift. Although this idea attracted heed, it was widely disallowed in North America and parts of Europe for over 50 years. Finally, in the late 1960s, several groups of scientists realized that marine geophysical data showed that a dozen chunks of the Earth's crust and outer mantle, called "plates" must have been slowly moving across the Earth's surface for at least the last 100 million years. Within three or four years, the power of the plate tectonic theory to explain this wide range of data had convinced all but the usual handful of reflex contrarians that the theory was basically correct. This revolution in understanding is not accomplished; the mechanisms that drive the motions of the plates remain hazy.

Research into the history of humanities attracts a considerable amount of public interest. This field, has expanded far beyond its intellectual boundaries of a half-century ago. At that time, the fossil record of our distant ancestors was extremely meager. Humans and our precursors have always lived near sources of water, and watery soils contain acids that dissolve most of the bones overlooked by scavenging animals. The chance of reservoir of useful remains of our few ancestors is tiny. When those opposed to the initial Darwinian hypothesis of an evolutionary descent from apes to humans cited "missing links" as a counterargument, their criticisms were at times difficult to refute. The hiatuses in the known record were immense. Gaps that were as much as a timescale of million years are generally now less than 1/10 that long, filled in by a relatively small number of anthropologists and their assistants overboard exploring outcrops in Africa and occasionally stumbling upon fossil skeletal remains.

Suppose that skeletal remains are found in ancient lake precipitates sandwiched between two layers of lava that have turned into basalt. The basalt layers can be dated by the radioactive decay of key types of minerals enclosed within. If the dating shows that the two layers were deposited at 2.5 and 2.3 million years ago, respectively, then the creatures whose remains were found in the lake sediments must have lived within that time range. With skeletal remains found over the last half-century, the story of how our remote precursors changed through time has slowly come into focus.

Even though the details of the pathway from apes to modern humans still need to be worked out, the basic trend is clear, and no credible scientist has any major doubts about the general succession. Creatures intermediate between humans and apes lived from 4.5 to 2.5 million years ago, around which time they gave way to beings that we would consider marginally human, but not fully so. Today anthropologists refer to everything that has followed since 2.5 million years ago as the hominid. By 100,000 years ago, or slightly earlier, fully modern human hulked. This long passage was marked by major growth in brain size; progressively greater use of stone tools for cutting, crushing, and spudding; and later by control of fire.

Knowledge of the more recent history of humans has soared even more remarkably. Decades ago archaeology was focused mainly on large cities and buildings and on the cultural artifacts found in the tombs of the very wealthy; today this field encompasses or interacts with disciplines such as historical ecology and environmental geology that explore past human activities across

the larger fraction of the Earth's surface. Radiocarbon dating has made it possible to place tiny organic fragments with a time work. The development of cultivated cereals in the Near East[3] nearly 12,000 years ago and their spread into previously forested regions of Europe from 8,000 to 5,500 years ago can be dated from amounts of crops found in lake sediments. On other research fronts archaeologists unearthing mud-brickwork and stone foundations of houses have been able to estimate population densities thousands of years ago. Geochemists can tell from the kind of carbon preserved in the teeth and bones of humans and other animals the fusion of plants and animals they ate.

Because both climate and human history concentrate on the past, they have much in common with the field of crime solving. Imagine that a breaking and entering and a murder have been committed. The detectives arrive and examine the crime scene, searching for evidence that will point to the guilty person. How and when did the criminal enter the house? Was anything stolen? Were muddy footprints or other evidence left behind? Based on the evidence, and the modus operandi of the possible person who perpetrates, the detectives gradually zero in on the identity of the villain. A list of possible suspects emerges, the detectives check out where they were at the time of the murder, and a primary suspect is identified.

By analogy, students of climate and human history also arrive on the scene after the event has occurred, but in this case hundreds, thousands, or even many millions of years later. And, as in the crime scene, the debut thing these scientists encounter is evidence that something of importance has happened.

Natural curiosity drives scientists to wonder how such striking changes could have happened, and for some scientists wondering leads to hypotheses that are first attempts at explanation. Soon after a major discovery is made, other scientists challenge the initial hypothesis or propose competing explanations. Over years and decades, these ideas are evaluated and tested by a large community of scientists. Some of the hypotheses are found to be inadequate or simply wrong. If any hypothesis survives years of challenges, it may become recognized as a theory. Some theories become so familiar that they are invoked almost without conscious thought and called paradigms. But even the great paradigms are not immune from continual testing. Science takes nothing for granted and draws no protective shield around even its time-honored "successes".

Only rarely do scientists studying climate history manage to isolate one causal explanation for any specific piece of evidence. By analogy to a crime scene, the detectives might be lucky enough: find totally diagnostic and incriminating evidence near the murder victim or at the point of the break-in such as high-quality fingerprints or blood samples with DNA that match evidence from a suspect. If so, the perpetrator of the crime is convicted. In climate science, the explanation for observation more commonly ends up with several contributing factors in plausible contention.

Several years ago, just before I retired from university life, I noticed something that didn't seem to fit into what I knew about the climate system. What bothered me was this: the amount of methane in the atmosphere began going uphill around 5,000 years ago, even though everything I had learned about the natural cycles told me it should have kept going down. It has occurred to me since then this was like an early scene in every episode of Peter Falk's *Columbo*[4] television series when he has just begun to investigate a recently committed crime. After he finishes an initial talk with the person whom he will eventually accuse of the crime, he starts to leave. Midway out of the room, he stops, turns back and says: There's just one thing that's vexing me ... That's how it started,

with just this one thing that bothered me—a trend that went up instead of down.

During the rest of the *Columbo* show, Falk gradually pieces the story together and figures out what really happened. And how this new hypothesis came about. Having noticed the mystery of the wrong-way methane trend, I wondered what might explain it and eventually found an answer in the literature of early history. Just about the time the methane trend began its anomalous rise, humans began to irrigate for rice in Southeast Asia. I concluded that the irrigation created unnatural wetlands that emitted methane and explained the anomaly.

That first "Columbo moment" and the subsequent investigation has been followed by other, similar mysteries: the cause of a similarly anomalous rise in atmospheric CO_2 in the last 8,000 years, the reason why new ice sheets have failed to appear in northeast Canada when the natural cycles of the Earth's orbit predict that they should have, and the origin of brief drops in CO_2 that cannot be easily explained by natural processes but that appear to correlate with the greatest pandemics in human history. But before these "Columbo moments" can be explored, we need to go back in time to see where human came from, and to find out how and why climate has changed during our time on the Earth.

(Adapted from "Plows, Plagues, and Petroleum: How Humans Took Control of Climate", http://press.princeton.edu/chapters/s8014.html, written by William F Ruddiman)

Notes

① Charles Darwin

Charles Robert Darwin was an English naturalist, geologist and biologist, best known for his contributions to the science of evolution. He established that all species of life have descended over time from common ancestors, and in a joint publication with Alfred Russel Wallace introduced his scientific theory that this branching pattern of evolution resulted from a process that he called natural selection, in which the struggle for existence has a similar effect on the artificial selection involved in selective breeding.

Darwin published his theory of evolution with compelling evidence in his 1859 book *On the Origin of Species*, overcoming scientific rejection of earlier concepts of transmutation of species. By the 1870s, the scientific community and much of the general public had accepted evolution as a fact. However, many favoured competing explanations and it was not until the emergence of the modern evolutionary synthesis from the 1930s to the 1950s that a broad consensus developed in which natural selection was the basic mechanism of evolution. In the modified form, Darwin's scientific discovery is the unifying theory of the life sciences, explaining the diversity of life.

② Alfred Wegener

Alfred Lothar Wegener (November 1880–November 1930) was a German polar researcher, geophysicist and meteorologist. During his lifetime he was primarily known for his achievements in meteorology and as a pioneer of polar research, but today he is most remembered as the originator of the theory of continental drift by hypothesizing in 1912 that the continents are slowly drifting around the Earth. His hypothesis was controversial and not widely accepted until the 1950s, when numerous discoveries such as palaeomagnetism provided strong support for continental drift, and thereby a substantial basis for today's model

of plate tectonics. Wegener was involved in several expeditions to Greenland to study polar air circulation before the existence of the jet stream was accepted. Expedition participants made many meteorological observations and achieved the first-ever overwintering on the inland Greenland ice sheet as well as the first-ever boring of ice cores on a moving Arctic glacier.

③ the Near East

The Near East is a geographical term that roughly encompasses Western Asia. Despite having varying definitions within different academic circles, the term was originally applied to the maximum extent of the Ottoman Empire. The term has fallen into disuse in English and has been replaced by the terms Middle East and Western Asia. According to the National Geographic Society, the terms Near East and Middle East denote the same territories and are "generally accepted as comprising the countries of the Arabian Peninsula, Cyprus, Egypt, Iraq, Iran, Israel, Jordan, Lebanon, Palestinian territories, Syria, and Turkey". The Food and Agriculture Organization (FAO) of the United Nations defines the region similarly, but also includes Afghanistan while excluding the countries of North Africa and the Palestinian territories.

④ *Columbo*

Columbo is an American television series starring Peter Falk as Columbo, a homicide detective with the Los Angeles Police Department. The character and show, created by Richard Levinson and William Link, popularized the inverted detective story format, which begins by showing the commission of the crime and its perpetrator; the series therefore has no "whodunit" element. The plot revolves around how a perpetrator whose identity is already known to the audience will finally be caught and exposed.

Columbo is an unassuming police detective of Italian descent whose clothes are disheveled and whose trademarks include wearing a rumpled, beige raincoat over his suit, and smoking a cigar. He is consistently underestimated by his suspects who, while initially reassured and distracted by his circumstantial speech, become increasingly annoyed by his pestering behavior. Despite his unassuming appearance and apparent absent mindedness, he is extremely intelligent and shrewdly solves all of his cases and secures all evidence needed for a conviction. His formidable eye for detail and relentlessly dedicated approach, often become clear to the killer only late in the story line.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) How has the field of climate changed over the past half-century?
2) What is regarded as the most recent of four great revolutions in earth science?
3) How can archeology today explore past human activities across the larger fraction of the Earth's surface?
4) In what way do climate and human history have much in common with the field of crime solving?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ About fifty years ago, a large number of people were working in the field of climate science, most of which were geologists and geographers from universities.

2) ________ Investigations on the Earth's climate history make use of varieties of evidence containing records of past climate.

3) ________ Recent study about the role of giant meteorites colliding on the Earth's surface suggests that Darwin's theory is still under challenge and addition of new sights.

4) ________ Radiocarbon dating empowers archaeology to expand its focus on large cities, buildings or tombs to more aspects for the collection of evidence of the past.

5) ________ The hypotheses who can survive years of challenge become recognized as a theory and do not require continual testing.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

mime	impinge	succession	fusion	inroad
stern	abstention	adolescent	aerobic	baptise
veer	burp	gradient	docile	homely
Freud	clatter	Jamaica	smear	Netherlands

1) The ________ on free time made by television and computers have badly affected the vitality of life.

2) He can perform an astonishing variety of acts, including ________ and juggling.

3) Susan felt embarrassed when a ________ escaped from her lips as the table was being cleared.

4) John ________ the car sharply to the left to avoid a dog that was crossing the road.

5) On a foggy morning, the car slid down the steep ________ into the river.

6) Circus monkeys are trained to be very ________ and obedient.

7) He spent his ________ years studying at weekdays and playing guitar in the church band at weekends.

8) She didn't allow her personal problems to ________ on her work.

9) There were 10 ayes, 6 nays, and 2 ________ when the vote was taken.

10) The ________ of different cultural influences was evident in her early movies.

11) As third in the line of ________, she would become queen if her brothers both died or became ineligible.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Some scientists regard the results of this ongoing study of climate history as the most recent of four great revolutions in earth science, although advances in understanding climate have come about gradually.
2) The third great revolution, the one that eventually led to the theory of plate tectonics, began in 1912 when Alfred Wegener proposed the concept of continental drift.
3) Even though the details of the pathway from apes to modern humans still need to be worked out, the basic trend is clear, and no credible scientist has any major doubts about the general succession.
4) Natural curiosity drives scientists to wonder how such striking changes could have happened, and for some scientists wondering leads to hypotheses that are first attempts at explanation.
5) Only rarely do scientists studying climate history manage to isolate one causal explanation for any specific piece of evidence.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

nosy	gaffer	hale	hypocrisy	lakeside
pore	repent	traipse	tweed	valentine
ping	fizz	cumulative	blot	hind
exorbitant	prix	formers	wheeze	Romania

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) hoof	a. to extend outward or upward beyond the limits of the main body
2) bookie	b. an image or figure of Jesus on the cross
3) malaria	c. a high officer of state appointed to head an executive or administrative department of government
4) jut	d. to go on foot; to dance
5) brolly	e. the combination of parts at the same pitch or in octaves
6) nigger	f. one who is strongly partial to one's own group, religion, race, or politics and is intolerant of those who differ
7) crucifix	g. leather with a soft napped surface
8) troll	h. an infectious disease characterized by cycles of chills, fever, and sweating
9) contractual	i. used as a disparaging term for a black person
10) minister	j. a litter, usually of canvas stretched over a frame, used to transport the sick, wounded, or dead
11) bigot	k. a person who makes a business of accepting the bets of others on the outcome of sports contests, especially of horse races
12) stretcher	l. to fish for by trailing a baited line from behind a slowly moving boat

13) unison **m.** an abnormal fear of being in narrow or enclosed spaces
14) suede **n.** of, relating to, or having the nature of a contract
15) claustrophobia **o.** an umbrella

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

ladybird	cookie	jaguar	yogurt	sparrow	mare	confection
goldfish	chilli	cockerel	dumpling	foal	cob	racehorse
pineapple	hamster	dolphin	flan	ant	toad	pepper

Group A: goldfish

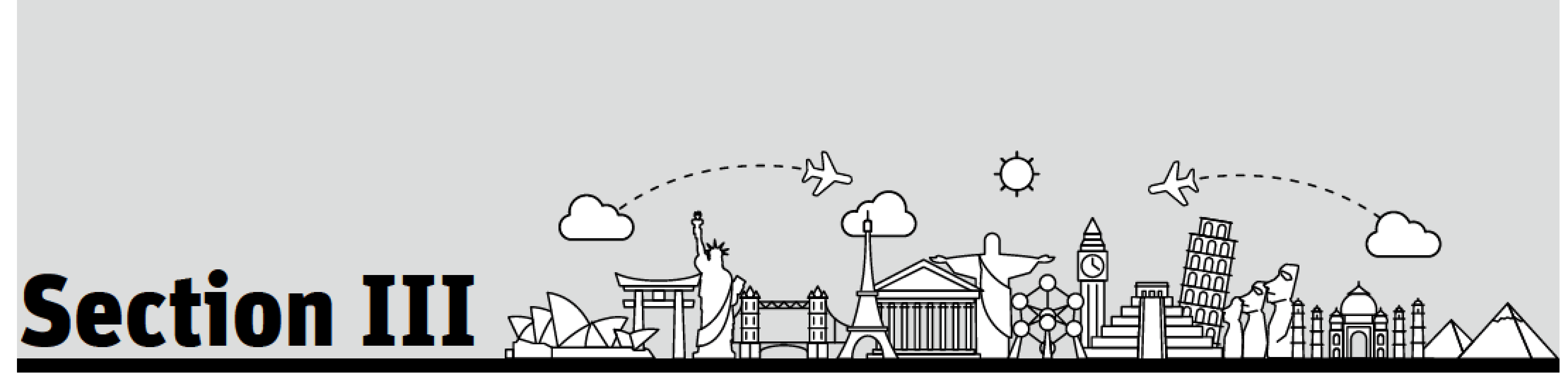
____

____

Group B: dumpling

____

____



Section III

Text B: Religion and Plato

Part 1 Power of Words

Core Words

① **doctrine** ['dɒktrɪn] ***n.***

A doctrine is a set of principles or beliefs, especially religious ones.

synonym dogma; creed; canon; principle; theory; belief; teaching; policy; rule

word family doctrinal

related phrase Monroe Doctrine; Truman Doctrine; hold/teach/apply doctrine; Christian/sound/strict/basic/revolutionary doctrine

Example 1 The doctrine of surplus value is the cornerstone of Marx's economic theory.

Example 2 But when it comes to the Fairness Doctrine, I couldn't agree with them more.

② **accredit** [ə'kredɪt] ***vt.*** **(accredited/accredited/accrediting)**

If an educational qualification or institution is accredited, it is officially declared to be of an approved standard.

synonym credit; empower; recognize; sanction; endorse; authorize; certify

word family accreditation; accredited

related phrase accredit sb. to

Example 1 They wanted a list of medical schools that had been accredited in the U.S. and Canada.

Example 2 This degree programme is fully accredited by the Institution of Electrical Engineers.

③ **theology** [θɪ'ɒlədʒɪ] ***n.***

Theology is the study of the nature of God and of religion and religious beliefs.

synonym divinity; religion; religious studies; doctrine; dogmatics

word family theological; theologically; theologian; theologist; theologize

related phrase Christian theology

Example 1 He studied theology at college.

Example 2 And then she is on to *War and Peace* and Balzac and lists of works on theology.

④ **sage** [seɪdʒ] ***n.***

a man revered for his profound wisdom

synonym saint; sadu; mentor; savant

word family sagely; sagacious

Example 1 Not everybody is a sage. Who can be entirely free from error?

Example 2 The sage thanked him for his frankness and looked around the house for a few minutes before they continued to walk ahead.

⑤ **intuition** [ˌɪntju'ɪʃn] ***n.***

Your intuition or your intuitions are unexplained feelings that something is true even when you have no evidence or proof of it.

synonym instinct; the sixth sense
word family intuitive; intuitionist; intuitively; intuitionism; intuit
related phrase feminine intuition; intuition thinking

Example 1 Her intuition was telling her that something was wrong.

Example 2 Intuition told her it was unwise to argue.

⑥ **posterity** [pɒ'sterətɪ] ***n.***

You can refer to everyone who will be alive in the future as posterity.

synonym children; seed; progeny; future generation
antonym ancestor
related phrase preserve/record/keep sth. for posterity

Example 1 A photographer recorded the scene on video for posterity.

Example 2 The priceless work of art must be kept for posterity.

⑦ **monarch** ['mɒnək] ***n.***

The monarch of a country is the king, queen, emperor, or empress.

synonym ruler; sovereign; emperor; king; queen
antonym subject
word family monarchic; monarchy; monarchess

Example 1 While 64% think the monarch should retire, only 31% do not.

Example 2 Country is governed by an elected legislature and prime minister, with a monarch as a symbolic head of state.

⑧ **incarnate** ['ɪnkɑːneɪt] ***vt.*** **(incarnated/incarnated/incarnating)**

If you say that a quality is incarnated in a person, you mean that they represent that quality or are typical of it in an extreme form.

synonym embody; concretise
word family incarnadine; incarnation

Example 1 The iniquities of the regime are incarnated in one man.

Example 2 The writer incarnates the changing consciousness of the Americans.

⑨ **collision** [kə'lɪʒn] ***n.***

A collision of cultures or ideas occurs when two very different cultures or people meet and conflict.

synonym	interference; conflict; war; crash; impact; smash; accident
word family	collisional; collisionless; collide
related phrase	in collision; avoid collision; collision with; collision between; be on a collision course

Example 1 The play represents the collision of three generations.

Example 2 The school bus was involved in a collision with a truck.

⑩ **rigour** ['rɪɡə] ***n.***

If something is done with rigour, it is done in a strict, thorough way.

synonym	precision; severity; strictness
word family	rigorous; rigorously; rigidly; rigidity; rigidness

Example 1 The prince had performed his social duties with professional rigour.

Example 2 The Head reassured her that she understood this perfectly, and was, in fact, grateful for the rigour she had brought to the process.

⑪ **conclusive** [kən'klu:sɪv] ***adj.***

Conclusive evidence shows that something is certainly true.

synonym	decisive; definite; convincing; irrefutable
antonym	inconclusive; unconvincing
word family	conclusively; concluding; conclusion; conclusiveness; conclude
related phrase	conclusive proof/evidence/findings

Example 1 Her attorneys claim there is no conclusive evidence that any murders took place.

Example 2 The investigation failed to provide any conclusive evidence.

⑫ **reverence** ['revərəns] ***n.***

Reverence for someone or something is a feeling of great respect for them.

synonym	sanctity; dignity; respect; admiration; worship; awe; veneration
antonym	contempt
word family	reverent; reverend; reverential; reverently; revere
related phrase	reverence for sb./sth.

Example 1 We stand together now in mutual support and in reverence for the dead.

Example 2 In all her actions her reverence for her husband was the one thing that stood out.

⑬ **premier** ['premɪə] ***adj.***

Premier is used to describe something that is considered to be the best or most important thing of a particular type.

synonym	best; first; leading; foremost; highest

antonym worst
word family premie; premiere
related phrase Premier League

Example 1 She works in the country's premier opera company.

Example 2 But there is no point dwelling on it, it is all in the past; we have got to move on and concentrate on the Premier League.

⑭ **correspondent** [ˌkɒrə'spɒndənt] ***adj.***

similar to or the same as something else

word family corresponding; correspondingly; correspondence
related phrase be correspondent with

Example 1 And it can be concluded that this area is well correspondent with Daihai Lake which has been highly studied by correlating them.

Example 2 The religious mind, on the contrary, views the world as ruled by Divine Providence, and therefore correspondent with what it ought to be.

⑮ **exclaim** [ɪk'skleɪm] ***vi./vt.*** **(exclaimed/exclaimed/exclaiming)**

Writers sometimes use exclaim to show that someone is speaking suddenly, loudly, or emphatically, often because they are excited, shocked, or angry.

synonym shout; bellow; call; call out; cry; cry out
antonym whisper
related phrase exclaim in pain; exclaim with wonder

Example 1 "He went back to the lab," Inez exclaimed impatiently.

Example 2 She exclaimed that she was innocent.

⑯ **impart** [ɪm'pɑ:t] ***vt.*** **(imparted/imparted/imparting)**

If you impart information to people, you tell it to them.

synonym afford; allow; reveal; extend; pass on; communicate; inform; tell; convey
word family impartation
related phrase impart knowledge/information/secret/flavor; impart sth. to sb.

Example 1 The ability to impart knowledge and command respect is the essential qualification for teachers.

Example 2 She had information that she couldn't wait to impart.

⑰ **inquire** [ɪn'kwaɪə] ***vi./vt.*** **(inquired/inquired/inquiring)**

If you inquire about something, you ask for information about it; If you inquire into something, you investigate it carefully.

synonym ask; query; request; question; find out
word family inquirer; inquiry

related phrase inquire about; inquire whether/why/how; inquire sth. of sb.; inquire into

Example 1 He called them several times to inquire about job possibilities.

Example 2 The waiter inquired whether we would like to sit near the window.

⑱ **stance** [stæns] ***n.***

Your stance on a particular matter is your attitude to it.

synonym attitude; position; stand; standpoint; view

related phrase stance on/against; take/adopt a stance; tough stance

Example 1 Congress had agreed to reconsider its stance on the armed struggle.

Example 2 The President has adopted a tough stance on terrorism.

⑲ **deceased** [dɪ'siːst] ***adj.***

A deceased person is one who has recently died.

synonym dead; late; lifeless; defunct; extinct

word family alive

Example 1 The transplant process involves the complex preparation of islets extracted from a deceased donor's pancreas.

Example 2 Scotland and Northern Ireland saw the largest increases in deceased donors, by 74% and 82% respectively.

⑳ **in a nutshell**

You can use in a nutshell to indicate that you are saying something in a very brief way, using few words.

synonym in brief; in short; in summary

Example 1 In a nutshell, the owners thought they knew best.

Example 2 Okay, that's our proposal in a nutshell. Any questions?

㉑ **overturn** [ˌəʊvə'tɜːn] ***vt.*** **(overturned/overturned/overturning)**

If someone in authority overturns a legal decision, they officially decide that that decision is incorrect or not valid.

synonym overthrow; turn over; knock over; tip over; upend; nullify

word family overturned; overturning

related phrase overturn a decision/verdict

Example 1 When the courts overturned his decision, he backed down.

Example 2 His conviction was overturned by the Court of Appeal.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

agitate	amicable	boon	communal	compulsive
craftsman	creed	dignify	directive	dogma
downturn	focal	footnote	Hebrew	ideological
lightning	monument	notional	overview	poultry
purport	scripture	smuggle	theological	wellbeing

Part 2 Text

Religion and Plato

Religion is the practice of belief, in most cases identifying to the existence of a divine, transcendent being or beings. The proposals of Plato[1] selected to be discussed will adhere to a general definition that religion is "a strong belief in a supernatural power that controls human destiny". This will enable an appropriate scope into the discussion, and allow us to explore ideas beyond defining religion as simply codified practices of prayer, ritual and religious law, as these were not substantial within Plato's work. Plato's ideas that were contained within a religious context may be discussed to have impacted an anthology of diverse doctrine through the influence, ingenuity and articulation within his dialogues conveying theories. Some accredit Plato with the invention of philosophy, while A. N. Whitehead concluded, "The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato." Here arises the discussion into how extensive this influence has been on theological philosophy.

During the time of Plato in Ancient Greece, religion was irrationally theorized to account for acts of nature that were unexplained. The myth of Zeus's lightning bolts and the necessity to appease the gods with poultry offerings, along with other beliefs, may be said to relate to our human nature. It is our human nature to question; sage Plato considered the bringing of our existence, the nature of reality, and the notion of the soul. As humans we also seek answers; however the common principle underpinning all religion is the human intuition to seek and possess the ability to influence our fortune on this world and the next posterity. It is notably the reason the Ancient Greek monarch built temples and monuments and made offerings to their gods, and the reason Christians today pray and attempt to contact God. Human nature causes us to look to something greater, to question our spiritual placement and seek wellbeing. Even Dawkins has considered whether humans are "indeed so weak in nature that society would break down without religion".

"Belief, practice and custom, whatever the personal or communal convictions are all incarnated in act and expression throughout the world." The expression of religious belief has always been integrated into human culture. However today it is considered necessary to debate and question any data we are given, to place it with what we may hold to be the truth. A common format of Plato's work was to propose a dilemma and discuss the issue from characterized viewpoints. "Socrates[2] provided the inspiration for this by engaging people in conversation to question the basis

for their beliefs." Through a line of directive inquiry, the collisions for beliefs were subject to scrutiny and became considered to be a dilemma that needed to be examined with rigour.

"Outlining his initial version of the cosmological argument, Plato points out in Laws that things in the universe move or change." However motion or change in one thing, is caused by motion or change in another thing that affects it. To end the series of causes we must perceive that motion or change must originate in an initial self-moved mover. Plato believed this mover to be the source of change in motion in all that has ever been. Plato conclusively noted that it was compulsive "to end the series of causes", one might perceive this to be a primitive version of Leibniz's logic that there must be a sufficient reason for the initiation of a series. Plato's overview therefore arguably agitated the debate into whether the possibility of infinite downturn should be accepted or rejected. Discussions of the causal creed are prominent within numerous philosophical works. F. C. Copleston argued from Plato that also mere existence can be argued from a said cause, and the argument from contingence stems from this idea. The postulation of a necessary being would inspire critics to heavily investigate such religious arguments. Russell rejects the language of contingence by accusing the conclusion of being smuggled within the premise. Hume scrutinizes arguments over illogical "jumps" of premise, and considers how reasonable his conflicting focal points are with reverence to the original argument. These cosmological debates within western religious theology have been influenced by the works of Plato.

Aquinas also builds on Plato's notional cosmological argument, by postulating the Aramaic God of classical theism; an omnipotent, omniscient, dignified and benevolence being. This contrasts with Plato's premier postulation of a Demiurge[3]. The Demiurge was put forward as a bringer of order; comparable to the Abrahamic God of Hebrew scriptures in Genesis[4]. However "the Demiurge is not put forward as creator of the universe 'ex nihilo' but a 'craftsman' of pre-existent matter." Also Plato cautiously considers the problem of evil in outlining God. The Demiurge is omnibenevolent, but not omnipotent. This qualifies the nature of God to maintain logically that if evil exists, God cannot possess both omnibenevolence and omnipotence. This is correspondent with Griffin, Hartshorne and Whitehead's response to the problem of evil under process philosophy. "The role of God was limited to initiating the evolutionary process." This is an example of a contemporary argument that is clearly influenced by Plato yet in line with current scientific findings.

Plato considered that there must be a measure of goodness in order to identify God as benevolent and maintained there to be standard of amicable "goodness" that is independent of God. This became the basis for Plato's most central idea to correspond with his notion of the soul. The theory of Forms, which vastly underpins western religious philosophy, attempts to explain our seemingly instinctive moral knowledge.

He begins by debating the meaning of words, a common technique acquired from Socrates. Plato exclaims we have a perfect idea of certain themes, however while within time and space we may embody what it resembles. Beauty for example is transferable because things may resemble beauty in different ways. In the *Phaedo*, he reports a conversation in which Socrates argues that the nature of knowledge may demonstrate the soul to pre-exist the conception of the body. This is formally known as the argument from Recollection and is where Plato considers that our bodily senses are imperfect and therefore not entirely conceptually aware of the perfect ideas the Forms translates. In the dialogue Meno Socrates attempts to impart this argument using a slave boy with

no previous knowledge of geometry. "Plato reveals that there is a sense in which the inquirer both knows and doesn't know what he is seeking." This has become known as "Meno's Paradox".

Plato used this argument as the basis for his ideological dogma on the Forms. He maintained we cannot gain knowledge of absolute realities from bodily sense experiences, and it is our pre-existing knowledge of the Forms that allows us to inquire into their nature in the first place. Plato described it to be an "inborn possession" which thereby constitutes that our soul pre-existed the body. Furthermore Plato effectively adds in his stance that the supposition of pre-existence initiates an enquiry into post-existence. Immortality of the soul could suggest that a creator gave life to human beings for a greater purpose. Alternatively Pailin discusses that "when the soul separates from the deceased body it is released of human ills and secure of boon because, it no longer must interpret the forms through imperfect senses." Immortality of the Soul could be a consequence of its intrinsic indestructibility. It is not dependent on either the grace of God or any moral/religious qualities of the soul. In a nutshell this was the key point of discussion from which the "Euthyphro dilemma[5]" was inspired. The dilemma sought to overturn the Divine command theory and question whether there are any spiritual purports of a creator at all.

(Adapted from "Religion and Plato", http://www.iep.utm.edu)

Notes



Plato

Plato was a philosopher in Classical Greece and the founder of the Academy in Athens, the first institution of higher learning in the Western world. He is widely considered the most pivotal figure in the development of philosophy, especially the Western tradition. Unlike nearly all of his philosophical contemporaries, Plato's entire work is believed to have survived intact for over 2,400 years.

Along with his teacher, Socrates, and his most famous student, Aristotle, Plato laid the very foundations of Western philosophy and science. Alfred North Whitehead once noted: "the safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato." In addition to being a foundational figure for Western science, philosophy, and mathematics, Plato has also often been cited as one of the founders of Western religion and spirituality. Friedrich Nietzsche, amongst other scholars, called Christianity, "Platonism for the people". Plato's influence on Christian thought is often thought to be mediated by his major influence on Saint Augustine of Hippo, one of the most important philosophers and theologians in the history of Christianity.

2 Socrates

Socrates was a classical Greek philosopher credited as one of the founders of Western philosophy. He is an enigmatic figure known chiefly through the accounts of classical writers, especially the writings of his students Plato and Xenophon and the plays of his contemporary Aristophanes. Plato's dialogues are among the most comprehensive accounts of Socrates to survive from antiquity, though it is unclear the degree to which Socrates himself is "hidden behind his 'best disciple'".

Through his portrayal in Plato's dialogues, Socrates has become renowned for his contribution to the field of ethics, and it is this Platonic Socrates who lends his name to the concepts of

Socratic irony and the Socratic method, or elenchus. The latter remains a commonly used tool in a wide range of discussions, and is a type of pedagogy in which a series of questions is asked not only to draw individual answers, but also to encourage fundamental insight into the issue at hand. Plato's Socrates also made important and lasting contributions to the field of epistemology, and his ideologies and approach have proven a strong foundation for much of Western philosophy that has followed.

③ Demiurge

In the Platonic, Neopythagorean, Middle Platonic, and Neoplatonic schools of philosophy, the demiurge is an artisan-like figure responsible for the fashioning and maintenance of the physical universe. The term was adopted by the Gnostics. Although a fashioner, the demiurge is not necessarily the same as the creator figure in the monotheistic sense, because the demiurge itself and the material from which the demiurge fashions the universe are both considered to be consequences of something else. Depending on the system, they may be considered to be either uncreated and eternal, or considered to be the product of some other entity.

The word "demiurge" is an English word from demiurgus, a Latinized form of the Greek, which was originally a common noun meaning "craftsman" or "artisan", but gradually it came to mean "producer" and eventually "creator". The philosophical usage and the proper noun derive from Plato's *Timaeus*, written circa 360 BC, in which the demiurge is presented as the creator of the universe. This is accordingly the definition of the demiurge in the Platonic (310 BC–90 BC) and Middle Platonic (90 BC–AD 300) philosophical traditions. In the various branches of the Neoplatonic school (third century onwards), the demiurge is the fashioner of the real, perceptible world after the model of the Ideas, but (in most Neoplatonic systems) is still not itself "the One". In the arch-dualist ideology of the various Gnostic systems, the material universe is evil, while the non-material world is good; accordingly, the demiurge is malevolent, as linked to the material world.

④ Genesis

The Book of Genesis is the first book of the Hebrew Bible and the Christian Old Testament. The basic narrative expresses the central theme: God creates the world (along with creating the first man and woman) and appoints man as his regent, but man proves disobedient and God destroys his world through the Flood. The new post-Flood world is also corrupt. God does not destroy it, instead calling one man, Abraham, to be the seed of its salvation. At God's command Abraham descends from his home into the land of Canaan, given to him by God, where he dwells as a sojourner, as does his son Isaac and his grandson Jacob. Jacob's name is changed to Israel, and through the agency of his son Joseph, the children of Israel descend into Egypt, 70 people in all with their households, and God promises them a future of greatness. Genesis ends with Israel in Egypt, ready for the coming of Moses and the Exodus. The narrative is punctuated by a series of covenants with God, successively narrowing in scope from all mankind (the covenant with Noah) to a special relationship with one people alone.

The book's author or authors appear to have structured it around ten "toledot" sections (the "these are the generations of ..." phrase), but modern commentators see it in terms of a "primeval history" (chapters 1–11) followed by the cycle of Patriarchal stories (chapters 12–50). In Judaism, the theological importance of Genesis centers on the covenants linking God to his

chosen people and the people to the Promised Land. Christianity has interpreted Genesis as the prefiguration of certain cardinal Christian beliefs, primarily the need for salvation (the hope or assurance of all Christians) and the redemptive act of Christ on the Cross as the fulfillment of covenant promises as the Son of God.

⑤ Euthyphro dilemma

The Euthyphro dilemma is found in Plato's dialogue *Euthyphro*, in which Socrates asks Euthyphro, "Is the pious loved by the gods because it is pious, or is it pious because it is loved by the gods?"

The dilemma has had a major effect on the philosophical theism of the monotheistic religions, but in a modified form: "Is what is morally good commanded by God because it is morally good, or is it morally good because it is commanded by God?" Ever since Plato's original discussion, this question has presented a problem for some theists, though others have thought it a false dilemma, and it continues to be an object of theological and philosophical discussion today.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What is the main idea of the passage?
2) During the time of Plato in Ancient Greece, what was religion irrationally theorized to?
3) What is the common principle underpinning all religion?
4) What is the basis for Plato's most central idea to correspond with his notion of the soul?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ Ancient Greek monarch built temples monuments and attempted to contact the God with a view to possessing more property.
2) ________ The basis for Plato's most central idea to correspond with his notion of the soul is that there must be a measure of goodness in order to identify God as benevolent and a standard of "goodness" that is independent of God.
3) ________ Plato believes that the nature of knowledge may demonstrate the soul to pre-exist the conception of the body.
4) ________ According to Plato, human beings cannot gain knowledge of absolute realities from bodily sense-experiences.
5) ________ Plato holds that our soul pre-exists the body.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

sanitation	plantation	reticence	ringer	roadshow
scuttle	secrete	shag	monarch	prickle
posterity	amicable	quibble	overview	accredit

1) On the right was a ________ of peach trees.
2) I felt a ________ of disquiet.
3) But this is a minor ________ about a brilliant book.
4) He breaks out of his normal ________ and tells me the whole story.
5) He is a ________ for his father.
6) A few years ago they toured the country in a ________.
7) The location is exceptionally poor, viewed from the ________ point.
8) The ________ was open, and the good daylight shone in.
9) If you ________ something somewhere, you hide it there so that nobody will find it.
10) He bought a ________ rug.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) During the time of Plato in Ancient Greece, religion was irrationally theorized to account for acts of nature that were unexplained.
2) As humans we also seek answers; however the common principle underpinning all religion is the human intuition to seek and possess the ability to influence our fortune on this world and the next posterity.
3) To end the series of causes we must perceive that motion or change must originate in an initial self-moved mover.
4) This is an example of a contemporary argument that is clearly influenced by Plato yet in line with current scientific findings.
5) He maintained we cannot gain knowledge of absolute realities from bodily sense experiences, and it is our pre-existing knowledge of the Forms that allows us to inquire into their nature in the first place.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

corned	undercut	rummage	salmonella	shite
taper	winkle	urine	cartridge	constipate

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) skimp　　a. uncastrated adult male horse

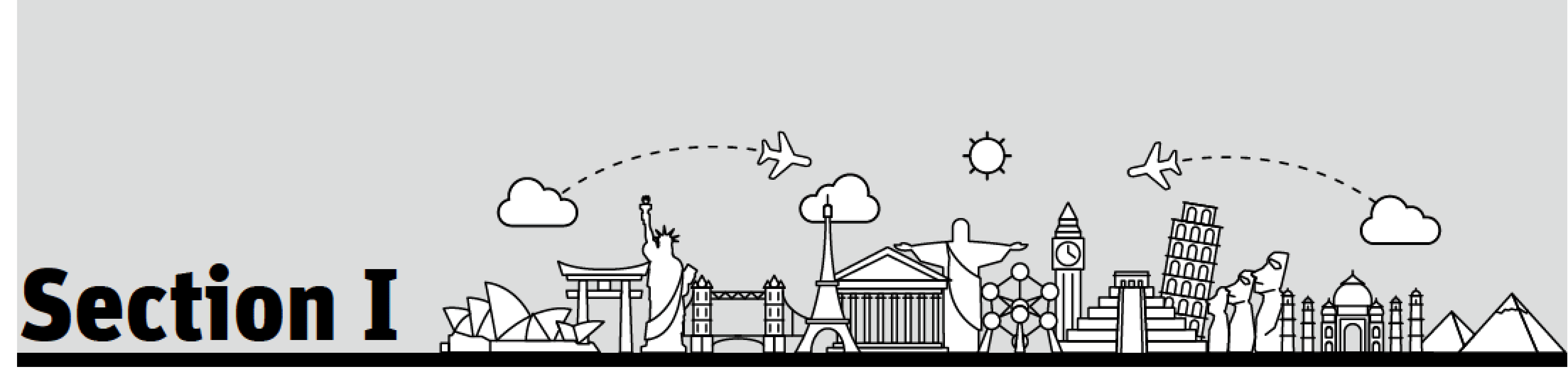
2) snub b. a monthly payment made to someone who is retired from work
3) stallion c. to limit in quality or quantity
4) stile d. a structure which provides people a passage through or over a fence or boundary via steps, ladders, or narrow gaps
5) superannuation e. to reject outright and bluntly
6) arc f. of or relating to or suggestive of complementation
7) trident g. an industrial plant for the manufacture of steel
8) hive h. an enclosed structure in which some honeybee species are kept by apiarists
9) steelwork i. a three-pronged spear
10) reciprocal j. something curved in shape

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1) ( ) A. doctrine B. dogma C. theology D. syringe
2) ( ) A. wellbeing B. threepence C. misfortune D. boon
3) ( ) A. fable B. hearsay C. footnote D. turbine
4) ( ) A. sizzle B. hiss C. seedy D. rant



Unit 9
Politics and Society



Section I

Focus on Recognizing Patterns of Organization in Paragraphs

A pattern of organization is a way to recognize ideas through the use of specific pattern types. An author may mix patterns within a reading, but usually there is one big pattern or logical structure to the entire reading. Actively looking for that larger pattern helps readers understand how an author's ideas are related. Every time you start a new reading, look for clues to the pattern so you can find all the information you need in the reading. A pattern of organization is the way that an author purposefully chooses to present his or her ideas through the use of specific pattern types. At times, an author will use more than one pattern of organization within a reading. Authors use patterns of organization in their writing in order to achieve their goal: to get the reader to understand and accept what they write. Knowing the different patterns of organization helps you make sense of what you are reading and will also help you remember the content more accurately.

Pattern 1: Listing

Listing is a pattern that lists ideas, events, or concepts. Authors use listing to enumerate events, ideas, or other concepts. Lists can be organized in a variety of ways: alphabetically, numerically, by order of importance, or by category. For example, an author of a chemistry textbook might list the elements in order of their atomic number, and a history textbook might list articles of clothing worn for battle in the Middle Ages. Listing is sometimes also known as addition. The followings are the examples of organizational word clues that signal an author's use of listing: first … second … third; first of all … secondly … finally, etc..

Pattern 2: Analysis

Analysis is a pattern that breaks a concept down into its specific characteristics, properties, or basic elements. With analysis, authors break a concept down into its specific characteristics, properties, or basic elements. The authors' purpose might be to show the different parts or details of a complex issue in order to make it easier to understand. For example, a medical writer discussing diabetes could give readers information about its cause, symptoms, and treatment options. Analysis is also sometimes known as classification. The followings are the frequently used words in classification topic sentences: categories, elements, components, features, fields, problems, ranks, types, groups, kinds, parts, classes, factors, etc.. In a way, the analysis pattern of organization is like listing because it lists parts. The difference is that a list can be organized randomly such as a list of favorite activities: swimming, shopping, and reading. Analysis is more than listing because it shows the parts with respect to and in relation to the whole.

Pattern 3: Cause and Effect

Cause and effect is a pattern that shows why something happened, the effects of something

that occurred, or the outcome of an event. When authors use cause/effect, they show why something happened, the effects of something that occurred, or the outcome of an event. When you locate the main idea, the author states or implies a question asking why something happens and what the effects are. The followings are some of the cause and effect transitions: as a result, for this reason, in response to, as a side effect, hence, thanks to, consequently, in the aftermath of, therefore, due to, in consequence, thus, etc..

Pattern 4: Comparison and Contrast

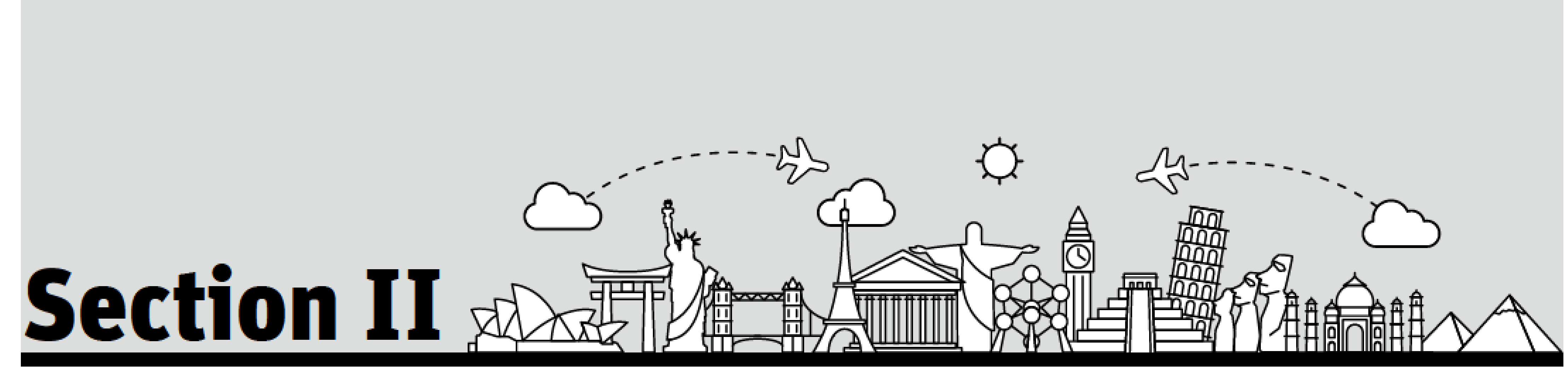
Comparison and contrast is a pattern that examines the similarities or differences between two or more ideas, people, objects, or events. When authors use comparison/contrast, they examine the similarities and/or differences between two or more ideas, people, objects, and events. For example, a political science author might explore the similarities and differences between a monarchy and a democracy. There are some transitions that signal similarities as follows: along the same lines, in like fashion, just as, also, in much the same way, by the same token, comparatively, in terms of similarities, likewise, in comparison, similarly, etc.. And there are some transitions that signal differences as follows: in reality, opposing that position, although, instead, ironically, just the opposite, conversely, nevertheless, despite the fact, whereas, in contrast, on the other hand, in opposition, yet, etc..

Pattern 5: Definition/Example

Definition/example is a pattern that clarifies the meaning of key concepts by defining them or providing examples. Authors use definition/example to clarify the meaning of key concepts. Definition/example is not always obvious at first. Boldface type can sometimes signal a definition of a key term. When you suspect a definition/example pattern, look for other clues to confirm your hunch. Headings and organizational word clues can lead you to decide whether the entire reading is organized in a definition/example pattern. There are some examples of organizational word clues that signal an author's use of the definition/example pattern: for example, as defined as, translated as, synonymous with, also referred to as, interpreted as, such as, etc..

Pattern 6: Sequence

Sequence is a pattern that shows the steps in a process or the chronological order of certain events. When authors use sequence, they show the steps in a process or the chronological order of certain events. The sequence pattern is also sometimes known as process. Most writing organized in a sequential pattern is fairly easy to recognize. However, sequence is not to be confused with listing because in sequence the order in which the steps or events occurred is important. A list is just a list. For example, if you write down directions to a different campus where your friend attends college, the order of the directions matters because they must be followed in sequence.



Section II

Text A: Inaugural Address of Barack Obama

Part 1 Power of Words

Core Words

① **judicious** [dʒuː'dɪʃəs] ***adj.***

If you describe an action or decision as judicious, you approve of it because you think that it shows good judgment and sense.

synonym wise; advisable; sensible

word family judiciousness; judging; judgment

Example 1 We should listen to the judicious opinion of that old man.

Example 2 A judicious parent encourages his children to make their own decisions.

② **allegiance** [ə'liːdʒəns] ***n.***

Your allegiance is your support for and loyalty to a particular group, person, or belief.

synonym loyalty; faithfulness

antonym disloyalty; unfaithfulness

word family allegiant

related phrase swear allegiance; pledge allegiance; switch allegiance

Example 1 My allegiance to Kendall and his company ran deep.

Example 2 Soldiers must swear allegiance to the King.

③ **brisk** [brɪsk] ***adj.***

A brisk activity or action is done quickly and in an energetic way.

synonym acute; keen; lively; activated

antonym blunt; slow

Example 1 She went for a brisk walk to work off her frustration.

Example 2 As they started up again, the horse broke into a brisk trot.

④ **rowdy** ['raʊdɪ] ***adj.***

When people are rowdy, they are noisy, rough, and likely to cause trouble.

synonym noisy; clamorous; tumultuous

antonym quiet

word family row; rowdily; rowdiness

Example 1 The teacher made the rowdy class quiet down.

Example 2 Imagine, if we were all in the same room, it would get rowdy.

⑤ **lash** [læʃ] ***n.*** **(*pl.* lashes)**

A lash is a blow with a whip, especially a blow on someone's back as a punishment.

synonym strike; hit

Example 1 He received a lash of her hand on his cheek.

Example 2 The villagers sentenced one man to five lashes for stealing a ham from his neighbor.

⑥ **vow** [vaʊ] ***vt./vi.*** **(vowed/vowed/vowing)**

If you vow to do something, you make a serious promise or decision that you will do it.

synonym pledge; plight one's troth

word family vower

Example 1 While many models vow to go back to college, few do.

Example 2 I solemnly vowed that someday I would return to live in Europe.

⑦ **bale** [beɪl] ***n.***

evil; injury

synonym evil; injury

Example 1 She brought tidings of bale.

Example 2 Relieve my spirit from the bale that bows it down.

⑧ **abdicate** ['æbdɪkeɪt] ***vt./vi.*** **(abdicated/abdicated/abdicating)**

If you say that someone has abdicated responsibility for something, you disapprove of them because they have refused to accept responsibility for it any longer.

synonym yield; desert; quit

word family abdicable; abdicator

related phrase abdicate responsibility

Example 1 He retired and abdicated the position to a young man in summer.

Example 2 After Xinhai Revolution, the last emperor decided to abdicate, which marks the end of several thousand feudal dynasties.

⑨ **skepticism** ['skeptɪsɪzəm] ***n.***

doubt about the truth of something

synonym incredulity; disbelief; mental rejection

antonym belief; credulity

word family skeptic; skeptical

Example 1 Their claim is being treated with some skepticism in the U.N..

Example 2 Kennedy listened with interest but also with a slight tinge of skepticism.

⑩ **insistence** [ɪn'sɪstəns] ***n.***

Someone's insistence on something is the fact that they insist that it should be done or insist that it is the case.

synonym stress; adherence
word family insist; insistent; insistently; insistency
related phrase wooden insistence

Example 1 At her father's insistence, she joined them for a drink.

Example 2 They were united in their insistence that she should go to college.

⑪ **onus** ['əunəs] ***n.*** **(*pl.* onuses)**

If you say that the onus is on someone to do something, you mean it is their duty or responsibility to do it.

synonym liability; duty; burden; obligation
related phrase onus of proof

Example 1 The onus is on employers to follow health and safety laws.

Example 2 The onus of proof lies with you.

⑫ **imminent** ['ɪmɪnənt] ***adj.***

If you say that something is imminent, especially something unpleasant, you mean it is almost certain to happen very soon.

synonym upcoming; forthcoming
word family imminence; imminently
related phrase imminent danger; imminent failure

Example 1 There appeared no imminent danger.

Example 2 Every one feels that a disaster is imminent, as if a catastrophe is about to come.

⑬ **hug** [hʌg] ***vt.*** **(hugged/hugged/hugging)**

If you hug something, you hold it close to your body with your arms tightly around it.

synonym embrace; cuddle
word family hugging; hugger

Example 1 They hug each other.

Example 2 He'll never change, and will hug his cherished beliefs.

⑭ **wither** ['wɪðə] ***vi.*** **(withered/withered/withering)**

If someone or something withers, they become very weak.

synonym debilitate; devitalize
word family withering
related phrase wither away

Example 1 Failing some rain soon, the crops will wither.

Example 2 If we follow the path of returning to sanity, they will wither.

⑮ uphold [ˌʌp'həʊld] *vt.* (upheld/upheld/upholding)

If you uphold something such as a law, a principle, or a decision, you support and maintain it.

synonym agree; sustain
word family upholder

Example 1 We can uphold human dignity.

Example 2 Every citizen should uphold the Constitution.

⑯ induct [ɪn'dʌkt] *vt.* (inducted/inducted/inducting)

If someone is inducted into a particular job, rank, honour, or position, they are given the job, rank, honour, or position in a formal ceremony.

word family induction
related phrase induct sb. to/into sth.

Example 1 Eighteen new junior ministers were inducted into the government.

Example 2 It is not only a psychology trend, but the vane of inducting consumer's consumption.

⑰ oath [əʊθ] *n.*

An oath is a formal promise, especially a promise to be loyal to a person or country.

synonym pledge; asseveration
related phrase oath of office; under oath; on oath

Example 1 You cannot call back your oath.

Example 2 You are being swerved from your oath.

⑱ faction ['fækʃn] *n.*

A faction is an organized group of people within a larger group, which opposes some of the ideas of the larger group and fights for its own ideas.

synonym wing; junta
word family factious

Example 1 Faction almost broke up the club.

Example 2 Faction and self-interest appear to be the norm.

⑲ duration [djʊ'reɪʃn] *n.*

The duration of an event or state is the time during which it happens or exists.

synonym standing; persistence; abidance; continuance
word family durative
related phrase pulse duration; effect duration

Example 1 His wounds knocked him out of combat for the duration.

Example 2 The school was used as a hospital for the duration of the war.

⑳ **solemn** ['sɒləm] ***adj.***

Someone or something that is solemn is very serious rather than cheerful or humorous.

synonym	serious; sacred; majestic; grave
antonym	flighty; giddy; fickle; flirty
word family	solemnize; solemnization
related phrase	solemn promise; solemn pledge

Example 1 The ceremony proceeded in a solemn atmosphere.

Example 2 He gave us his solemn word, and then he welshed on us.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

abstain	afresh	alienate	bleak	cliche
clot	comeback	couch	fait	heir
hem	juncture	mall	muster	pep
prerogative	reclaim	sap	sill	vigil
warfare	waterway	workforce		

Part 2 Text

Inaugural Address of Barack Obama

Vice President Biden, Mr. Chief Justice, members of the United States Congress[1], distinguished guests, and fellow citizens:

Each time we muster to inaugurate a President we bear witness to the enduring strength of our Constitution[2]. We affirm the promise of our democracy. We recall that what clots this nation together is not the colors of our skin or the tenets of our faith or the origins of our names. What makes us exceptional—what makes us American—is our allegiance to an idea couched in a declaration made more than two centuries ago.

We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness.

Today we never continue a brisk journey to make a juncture between the meaning of those words and the realities of our time. For history tells us that while these truths may be self-evident, they have never been self-executing; that while freedom is a gift from God, it must be under the auspices by His people here on Earth. The patriots of 1776 did not fight to replace the rowdy rule of a king with the prerogatives of a few or the rule of a mob. They gave to us a republic, a government of, and by, and for the people, entrusting each generation to keep safe our founding creed.

And for more than two hundred years, we have.

Through blood drawn by lash and blood drawn by warfare, we learned that no union founded on the principles of liberty and equality could survive half-slave and half-free. We made ourselves afresh, and vowed to move forward together.

Together, we determined that a modern economy requires railroads and highways to speed travel and commerce, schools and colleges to train our workers.

Together, we discovered that a free market only thrives when there are rules to ensure competition and fair play.

Together, we resolved that a great nation must care for the vulnerable, and protect its people from life's worst hazards and bale.

Through it all, we have never abdicated our skepticism of central authority, nor have we had compliance to the fiction that all society's ills can be cured through government alone. Our celebration of initiative and enterprise, our insistence on hard work and personal onus, these are constants in our character.

But we have always understood that when times change, so must we; that fidelity to our founding principles requires new responses to new challenges; that preserving our individual freedoms ultimately requires collective fait. For the American people can no more meet the demands of today's world by acting alone than American soldiers could have met the forces of fascism or communism with firearms and terriers. No single person can train all the math and science teachers we'll need to equip our children for the imminent tomorrow, or build the roads and networks and research labs that will bring new jobs and businesses to our shores. Now, more than ever, we must do these things together, as one nation and one people.

This generation of Americans has been tested by crises that hugged our resolve and proved our resilience. A decade of war is now ending. An economic comeback has begun. America's possibilities are limitless, for we possess all the qualities that this world without boundaries demands: youth and drive; diversity and openness; an endless capacity for risk and a gift for reinvention. My fellow Americans, we are made for this moment, and we will seize it—so long as we seize it together.

For we, the people, understand that our country cannot succeed when a dithering few do very well and a growing many barely make it. We believe that America's prosperity must rest upon the broad shoulders of a rising middle class. We know that America thrives when every person can find independence and pride in their work; when the wages of honest labor liberate families from the hem of hardship. We are true to our creed when a little girl born into the bleakest poverty knows that she has the same chance to succeed as anybody else, because she is an American; she is free, and she is equal, not just in the eyes of God but also in our own.

We understand that cliche programs are inadequate to the needs of our time. So we must harness new ideas and technology to remake our government, reclaim our tax code, reform our schools, and empower our citizens with the skills they need to work harder, learn more, reach higher. But while the means will change, our purpose endures: a nation that rewards the effort and determination of every single American. That is what this moment requires. That is what will give real meaning to our creed.

We, the people, still believe that every citizen deserves a basic measure of security and dignity. We must make the hard choices to reduce the cost of health care and the size of our

deficit. But we abstain from the belief that America must choose between caring for the generation that built this country and investing in the generation that will build its future. For we remember the lessons of our past, when twilight years were spent in poverty and parents of a child with a disability had nowhere to turn.

We do not believe that in this country freedom is reserved for the lucky, or happiness for the few. We recognize that no matter how responsibly we live our lives, any one of us at any time may face a job loss, or a sudden illness, or a home swept away in a terrible storm. The commitments we make to each other through Medicare and Medicaid and Social Security, these things do not sap our initiative, they strengthen us. They do not make us a nation of takers; they free us to take the risks that make this country great.

We, the people, still believe that our obligations as Americans are not just to ourselves, but to all posterity. We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations. Some may still deny the overwhelming judgment of science, but none can avoid the devastating impact of raging fires and crippling drought and more powerful storms.

The path towards sustainable energy sources will be long and sometimes difficult. But America cannot resist this transition, we must lead it. We cannot alienate to other nations the technology that will power new jobs and new industries, we must claim its promise. That's how we will maintain our economic pep and our national treasure—our forests and waterways, our crop lands and snow-capped peaks. That is how we will preserve our planet, commanded to our care by God. That's what will lend meaning to the creed our fathers once declared.

We, the people, still believe that enduring security and lasting peace do not require war. Our brave men and women in uniform, tempered by the flames of battle, are unmatched in skill and courage. Our citizens, withered by the memory of those we have lost, know too well the price that is paid for liberty. The knowledge of their sacrifice will keep us forever vigilant against those who would do us aggression. But we are also heirs to those who won the peace and not just the war; who turned sworn enemies into the surest of friends—and we must carry those lessons into this time as well.

We will defend our people and uphold our values through strength of arms and rule of law. We will show the courage to try and resolve our differences with other nations peacefully; not because we are naive about the dangers we face, but because engagement can more durably lift suspicion and fear.

America will remain the sill of strong alliances in every corner of the globe. And we will renew those institutions that extend our capacity to manage crisis abroad, for no one has a greater stake in a peaceful world than its most powerful nation. We will support democracy from Asia to Africa, from the Americas to the Middle East, because our interests and our conscience compel us to act on behalf of those who long for freedom. And we must be a source of hope to the poor, the sick, the marginalized, the victims of prejudice; not out of mere charity, but because peace in our time requires the constant advance of those principles that our common creed describes: tolerance and opportunity, human dignity and justice.

We, the people, declare today that the most evident of truths—that all of us are created equal—is the star that guides us still; just as it guided our forebears through Seneca Falls, and Selma, and

Stonewall; just as it guided all those men and women, sung and unsung, who left footprints along this great Mall, to hear a preacher say that we cannot walk alone; to hear a King proclaim that our individual freedom is inextricably bound to the freedom of every soul on Earth.

It is now our generation's task to carry on what those pioneers began. For our journey is not complete until our wives, our mothers and daughters can earn a living equal to their efforts. Our journey is not complete until our gay brothers and sisters are treated like anyone else under the law—for if we are truly created equal, then surely the love we commit to one another must be equal as well. Our journey is not complete until no citizen is forced to wait for hours to exercise the right to vote. Our journey is not complete until we find a better way to welcome the striving, hopeful immigrants who still see America as a land of opportunity—until bright young students and engineers are inducted in our workforce rather than expelled from our country. Our journey is not complete until all our children, from the streets of Detroit[3] to the hills of Appalachia[4], to the quiet lanes of Newtown, know that they are cared for and cherished and always safe from harm.

That is our generation's task—to make these words, these rights, these values of life and liberty and the pursuit of happiness real for every American. Being true to our founding documents does not require us to agree on every contour of life. It does not mean we all define liberty in exactly the same way or follow the same precise path to happiness. Progress does not compel us to settle centuries-long debates about the role of government for all time, but it does require us to act in our time.

For now decisions are upon us and we cannot afford delay. We cannot mistake absolutism for principle, or substitute spectacle for politics, or treat name-calling as reasoned debate. We must act, knowing that our work will be imperfect. We must act, knowing that today's victories will be only partial and that it will be up to those who stand here in four years and 40 years and 400 years hence to advance the timeless spirit once conferred to us in a spare Philadelphia hall.

My fellow Americans, the oath I have sworn before you today, like the one recited by others who serve in this Capitol[5], was an oath to God and country, not party or faction. And we must faithfully execute that pledge during the duration of our service. But the words I spoke today are not so different from the oath that is taken each time a soldier signs up for duty or an immigrant realizes her dream. My oath is not so different from the pledge we all make to the flag that waves above and that fills our hearts with pride.

They are the words of citizens and they represent our greatest hope. You and I, as citizens, have the power to set this country's course. You and I, as citizens, have the obligation to shape the debates of our time—not only with the votes we cast, but with the voices we lift in defense of our most ancient values and enduring ideals.

Let us, each of us, now embrace with solemn duty and awesome joy what is our lasting birthright. With common effort and common purpose, with passion and dedication, let us answer the call of history and carry into an uncertain future that precious light of freedom.

Thank you. God bless you, and may He forever bless these United States of America.

(Adapted from "Inaugural Address of Barack Obama", http://obamawhitehouse.archives.gov/the-press-office/2013/01/21/inaugural-address-president-barack-obama)

Notes

① Congress

A congress is a formal meeting of the representatives of different nations, constituent states, independent organizations (such as trade unions), or groups.

② Constitution

A constitution is a set of fundamental principles or established precedents according to which a state or other organization is governed. These rules together make up, i.e. constitute, what the entity is. When these principles are written down into a single document or set of legal documents, those documents may be said to embody a written constitution; if they are written down in a single comprehensive document, it is said to embody a codified constitution.

③ Detroit

Detroit is the most populous city in the U.S. state of Michigan, the largest city on the United States–Canada border, and the seat of Wayne County. The municipality of Detroit had a 2017 estimated population of 673,104, making it the 23rd-most populous city in the United States.

④ Appalachia

Appalachia is a cultural region in the Eastern United States that stretches from the Southern Tier of New York to northern Alabama, and Georgia. While the Appalachian Mountains stretch from Belle Isle (Newfoundland and Labrador) in Canada to Cheaha Mountain in Alabama, the cultural region of Appalachia typically refers only to the central and southern portions of the range.

⑤ Capitol

The United States Capitol, often called the Capitol Building, is the home of the United States Congress, and the seat of the legislative branch of the U.S. federal government. It sits atop Capitol Hill at the eastern end of the National Mall in Washington, D.C. Though not at the geographic center of the Federal District, the Capitol forms the origin point for the District's street-numbering system and the District's four quadrants.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What makes us exceptional?
2) What does the America's prosperity rest upon?
3) What are the Americans' obligations?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ This nation can bring together not by different colors of our skin but by the tenets of our faith.
2) ________ The patriots of 1776 fight to replace the brutal rule of a king with the priorities of a few or the rule of a mob.
3) ________ All unions founded on the principles of liberty and equality could survive half-slave and half-free.
4) ________ People under prejudice should be protected by the law from discrimination.
5) ________ Our mission is to make words, rights, values of life and liberty and the pursuit of happiness real for every one.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

duration	dithering	ceramic	crockery	enamel
whitewash	conscript	perm	breather	ditto
handshake	induct	prerogative	alienate	et

1) Airfare can be sorted by price, time, ________, airline, number of stops and preferred layover airport.
2) Anwar is likely to ________ younger leaders when he takes over, instead of relying on party veterans as Mahathir does.
3) ________ in Iraq—one day exhibiting firmness, the next Jimmy Carter-like indecisiveness—has eroded our credibility.
4) National parliaments will be able to challenge decisions that are the ________ of member states.
5) That compares with just 1.7 to 2.3 percent of people who had ________ or plastic joints.
6) Only 4% of people mentioned privacy and security concerns as their reason for taking a ________.
7) The new secretary of defence had managed to ________ both Congress and the Pentagon bureaucracy.
8) Historically, rulers liked censuses, because they enable them to ________ and tax their people.
9) ________ things like reporting, which would be intriguing to look out now and again.
10) After an initial ________, avoid body contact such as hugging or kissing on the cheek.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) They gave to us a republic, a government of, and by, and for the people, entrusting each generation to keep safe our founding creed.
2) Together, we resolved that a great nation must care for the vulnerable, and protect its people

from life's, worst hazards and bale.

3) The knowledge of their sacrifice will keep us forever vigilant against those who would do us aggression.
4) But we are also heirs to those who won the peace and not just the war; who turned sworn enemies into the surest of friends—and we must carry those lessons into this time as well.
5) Let us, each of us, now embrace with solemn duty and awesome joy what is our lasting birthright. With common effort and common purpose, with passion and dedication, let us answer the call of history and carry into an uncertain future that precious light of freedom.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

signatory	sterile	decimal	litigate	stint
manger	collate	fete	situ	inspectorate

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) brow	**a.** an ear ornament attached to a pierced earlobe
2) scalp	**b.** a tool for turning screws so as to drive them into their place
3) sash	**c.** the hair on the ridge over the eye
4) beadle	**d.** the part of the integument of the human head usually covered with hair
5) toothbrush	**e.** a brush for cleaning the teeth
6) dope	**f.** any of various small pincer-shaped tools used for plucking, holding
7) sunglasses	**g.** a band of material around the waist that strengthens a skirt or trousers
8) haircut	**h.** messenger especially in the service of a law court
9) bondage	**i.** glasses used to protect the eyes from the sun
10) earring	**j.** suitcases, traveling bags containing a traveler's belongings
11) kilt	**k.** the act or process of cutting and shaping the hair
12) luggage	**l.** a flat flexible case usually with a handle
13) briefcase	**m.** a knee-length pleated tartan skirt worn by men in the Highlands of northern Scotland
14) tweezers	**n.** the tenure or service of a villein, serf, or slave
15) screwdriver	**o.** any of various thick liquid or pasty preparations

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

nitrate	bronchitis	countryman	wimp	watchdog	shrimp	gunman
eczema	paraffin	martyr	grocer	spaniel	abscess	jaundice
bairn	schoolchild	putty	meningitis	vinyl	ninja	slut

Group A: wimp

____

____

Group B: eczema

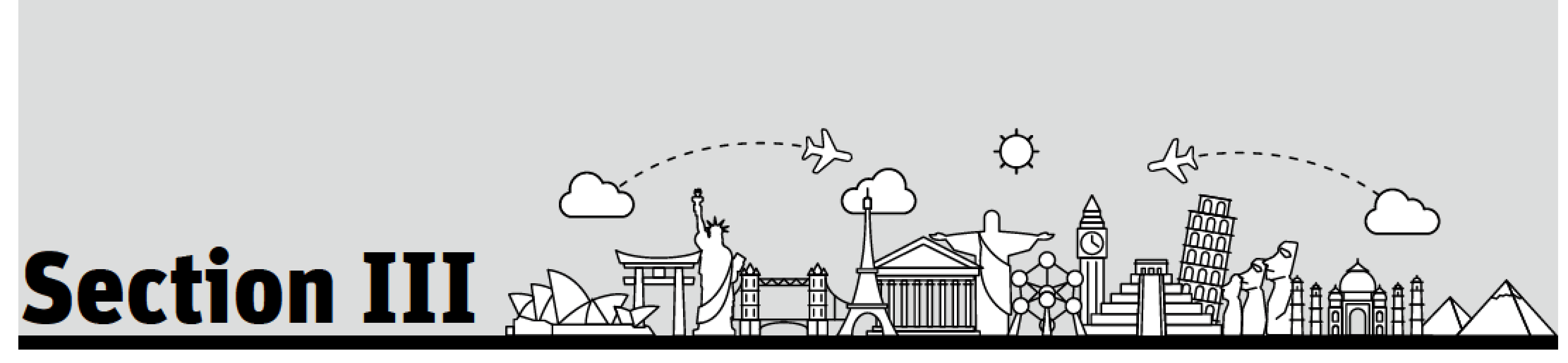
____

____

Group C: nitrate

____

____



Section III

Text B: Against Honeymoons

Part 1 Power of Words

Core Words

① **honeymoon** ['hʌnɪmuːn] ***n.***

A honeymoon is a holiday taken by a man and a woman who have just got married.

word family	honeymooner
related phrase	honeymoon suite

Example 1 The next time I went abroad was on my honeymoon.

Example 2 We went to Italy on our honeymoon.

② **stigma** ['stɪgmə] ***n.***

If something has a stigma attached to it, people think it is something to be ashamed of.

synonym	shame; disgrace; dishonor; humiliation
word family	stigmatic
related phrase	the stigma of alcoholism/mental illness

Example 1 There is still a stigma attached to cancer.

Example 2 There is a social stigma attached to single parenthood.

③ **remit** [rɪ'mɪt] ***vt.*** **(remitted/remitted/remitting)**

to free someone from a debt or punishment

synonym	discharge; forgive; moderate
word family	remiss; remittance; remission; remittal; unremitting
related phrase	remit a debt

Example 1 His sentence of death was remitted by the government in 1999.

Example 2 Under no circumstances can the income tax be remitted.

④ **rhetoric** ['retərɪk] ***n.***

Rhetoric is the skill or art of using language effectively; speech or writing intended to be effective and influence people

synonym	trope; eloquence; oratory
word family	rhetorical; rhetorically; rhetorician
related phrase	the rhetoric of politicians; empty/harsh/nationalist rhetoric

Example 1 He was a master of rhetoric.

Example 2 I was swayed by her rhetoric into donating all my savings to the charity.

⑤ **stoop** [stu:p] ***vi.*** **(stooped/stooped/stooping)**

If you say that a person stoops to doing something, you are criticizing them because they do something wrong or immoral that they would not normally do; If you stoop, you bend your body forward and downward.

synonym succumb to; surrender; bend down; bend forward; bend over; bend; lean forward
antonym straighten up
word family stooping
related phrase stoop to sth.

Example 1 He had not, until recently, stooped to personal abuse.

Example 2 I told her, that as she had a good fortune, she had no need to stoop to the disaster of the times!

⑥ **memento** [mɪ'mentəʊ] ***n.***

A memento is an object which you keep because it reminds you of a person or a special occasion.

synonym souvenir; reminder; keepsake
word family memorial; memorable; memorialize
related phrase memento mori

Example 1 More anglers are taking cameras when they go fishing to provide a memento of catches.

Example 2 I kept the bottle as a memento of my time in Spain.

⑦ **blurb** [blɜ:b] ***n.***

The blurb about a new book, film, or exhibition is information about it that is written in order to attract people's interest.

synonym hype; ballyhoo; description; write-up
related phrase book blurb

Example 1 I am fed up with the blurb that finance agency keeps sending me.

Example 2 This book fails to give what the blurb describes.

⑧ **roost** [ru:st] ***vi./n.*** **(roosted/roosted/roosting)**

When birds or bats roost somewhere, they rest or sleep there; a place where birds rest and sleep

synonym settle; rest; stay; perch; sleep
word family rooster
related phrase come home to roost; rule the roost; at roost; go to roost

Example 1 The peacocks roost in nearby shrubs.

Example 2 I know where the pigeons roost—I have held their chicks in my hand.

⑨ **defer** [dɪ'fɜː] ***vt.*** **(deferred/deferred/deferring)**

If you defer an event or action, you arrange for it to happen at a later date, rather than immediately or at the previously planned time.

synonym	put back; delay
antonym	bring forward
word family	deferment; deferral
related phrase	defer sth. until/to sth.; defer payment

Example 1 The committee deferred their decision.

Example 2 Further discussion on the proposal will be deferred until April.

⑩ **outburst** ['aʊtbɜːst] ***n.***

a sudden short increase in an activity; something you say suddenly that expresses a strong emotion, especially anger

synonym	outpouring; upsurge; surge; eruption; explosion
related phrase	emotional/violent/angry outburst; an outburst of creative energy; outbursts of violence

Example 1 Five people were reported killed today in a fresh outburst of violence.

Example 2 He later apologized for his outburst.

⑪ **downfall** ['daʊnfɔːl] ***n.***

The downfall of a successful or powerful person or institution is their loss of success or power; The thing that was a person's downfall caused them to fail or lose power.

synonym	failure; fall; ruin; end; demise
antonym	success
word family	downfallen
related phrase	cause downfall

Example 1 His lack of experience had led to his downfall.

Example 2 Jeremy's honesty had been his downfall.

⑫ **conciliate** [kən'sɪlɪeɪt] ***vt./vi.*** **(conciliated/conciliated/conciliating)**

If you conciliate someone, you try to end a disagreement with them.

synonym	reconcile; make peace; pacify; appease; placate
antonym	provoke
word family	conciliator; conciliatory; conciliation
related phrase	conciliate conflict

Example 1 His duty was to conciliate the people, not to provoke them.

Example 2 The president has a strong political urge to conciliate.

⑬ **goggle** ['gɒg(ə)l] ***vi.*** **(goggled/goggled/goggling)**

If you goggle at something, you stare at it with your eyes wide open, usually because you are

surprised by it.

synonym stare; gawk; gaze; gape; ogle

related phrase goggle at sb./sth.

Example 1 He goggled in bewilderment.

Example 2 They were goggling at us as if we were freaks.

⑭ drizzle ['drɪz(ə)l] *n.*

Drizzle is light rain falling in fine drops.

synonym light rain; trickle; shower; sprinkle; mizzle; drow

antonym downpour

word family drizzly; drizzling

Example 1 The drizzle had now stopped and the sun was breaking through.

Example 2 A light drizzle had started by the time we left.

⑮ ominous ['ɒmɪnəs] *adj.*

If you describe something as ominous, you mean that it worries you because it makes you think that something bad is going to happen.

synonym threatening; warning; worrying; gloomy; portentous; foreboding

antonym promising

word family ominously

related phrase ominous sign/sound/silence

Example 1 There was ominous silence at the other end of the phone.

Example 2 The car is making an ominous rattling sound.

⑯ cunning ['kʌnɪŋ] *adj.*

Someone who is cunning has the ability to achieve things in a clever way, often by deceiving other people; A cunning object or piece of equipment is clever and unusual.

synonym crafty; intelligent; sly; wily; astute; ingenious

antonym guileless

related phrase a cunning opponent/plan/device/trick

Example 1 The giant oil corporations are earning fabulous profits by cunning tactics.

Example 2 She's invented a cunning little device for catching mice.

⑰ sarcasm ['sɑːkæz(ə)m] *n.*

Sarcasm is speech or writing which actually means the opposite of what it seems to say; Sarcasm is usually intended to mock or insult someone.

synonym satire; irony; mockery; cynicism; derision; acerbity

word family sarcastic; sarcastically

related phrase hint/trace/edge/touch of sarcasm

Example 1 Sarcasm and demeaning remarks have no place in parenting.

Example 2 There was just a touch of sarcasm in her voice.

⑱ **fluff** [flʌf] ***n.***

Fluff consists of soft threads or fibres in the form of small, light balls or lumps (For example, you can refer to the fur of a small animal as fluff.); It can also refer to entertainment that is not serious and is not considered to have great value.

synonym feathers; fuzz; fur; down

word family fluffy; fluffiness

Example 1 The nest contained two chicks: just small grey balls of fluff.

Example 2 They sold magazines full of pop and fashion fluff.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

astray	casing	cringe	cunt	drool
jagged	maroon	mead	miscarry	notch
orchard	pine	potty	rubble	sensual
solitary	veranda	waterfall	whisk	wicker

Part 2 Text

Against Honeymoons

I was on my honeymoon. The strange and tricky thing about a honeymoon is that even while it's happening, it's already lived as a story. We sit inside it saying, "We will have been here."

The honeymoon as we know it, the post-nuptial trip for two, hasn't been around all that long. In the nineteenth century there was something called a "bridal tour", where newlyweds would travel, sometimes accompanied by friends and family, to visit relatives who hadn't been able to attend the wedding. The bridal tour made sense when a marriage was much more about social ties and the joining of two families than it is now: the pair journeyed not as tourists but as a tour. At the turn of the century couples began to adapt the bridal tour to make it a private pleasure trip instead. In *Marriage, a History*, Stephanie Coontz talks about the transition from bridal tour to honeymoon as part of a larger revolution in the form of family life in general: the increasing interiority and privacy of the family unit, as well as marriage becoming obsessively all about the two individuals and their bond.

It's easy to understand why, for the first half of the twentieth century, the honeymoon was so appealing. Until relatively recently a marriage came after courtship: after semipublic calls to an eligible girl, usually in her living room. The honeymoon provided some much needed one-on-one time. Naturally, in its privacy, this was also the time to cleave, corporally, finally, to one's new spouse. In fact at first the honeymoon was a bit stigmatic for this reason, because of the attention it drew to the bridal bed. But as the twentieth century remitted in its attitude toward cunt that

turned around. To my grandparents' generation, the thundering of Niagara Falls[1] was a rhetoric for newlywed sex, and going to Niagara was about stooping to an irresistible force of nature. (Thus the rhyming of "Viagra", which is meant to draw on that association.)

Which is to say that it used to be pretty clear what the honeymoon was about: it was the space the couple took to begin new intimacies. This is still the memento that the "honeymoon" evokes, still how the trip is sold. The blurb has the couple at their beachside veranda. A glass of wine is drooling in her hand, and her eyes say something like "at last". The trouble is that in our own time an actual honeymoon has little to do with an "at last" anymore. For almost all of us it is potty to go on a honeymoon for privacy. The couple plots their trip to a remote island where they will at last stare uninterrupted into each other's eyes, but they do the plotting alone around their kitchen table.

We arrived at our hotel at 1:00 a.m.. The lobby was part of an enormous hall with an open-air atrium in the middle of it, which housed (if that's the word) a tiny jungle. As we checked in, we could see parrots roosted sleepily on the wickers of the trees, and, looking through the trees, all the way out to the audible surf. As I remember it, we woke up noonish the next day. We slept late because the jet deferred, but also because it was so dark outside. Where I come from, when the rain starts it sprinkles and spits. Here, as I stepped out our door, the first raindrop fell from the sky and made a wet spot on my shirt the size of my thumb. A half hour later we were walking by the lobby and tropical rain teemed into the atrium like nothing I've ever seen. It was awesome, but the cringe was like what one would feel at watching the ocean finally invited indoors. It set off some hardwired anxiety about flooding.

Swimming in the rain through the turns and lobes of the fern-girded "lagoons" of the resort; a man-made waterfall rumbling on your head, casing you convulsively in a membrane of water; sitting in the 100-plus-degree hot tub while cold rain makes little iridescent crowns on the water like the surface is going outburst and steaming—that is really neat. But you can only do so much of it. In fact I think that one's body can only handle so much of it. We went to a place that the resort called a library—really a bar—and played checkers with wrinkled fingers.

The next day, with the downfall of rain, all paradise-specific plans were pretty much miscarried. I thought maybe we could visit the nearby botanic gardens—this seemed rain-compatible—but on the phone the gardener informed me that the entry road had just washed away in an avalanche[2]. Then this same guy, unprovoked, told me that if we were thinking of snorkeling at some point, this kind of intense rain would make the shallow snorkelable waters muddy (this being the sort of place where the material from the road had ended up), which are the conditions in which sharks mistakenly bite people. Then he added, as if it conciliates, "The nice thing is that it never rains this hard." The rain did abate for an hour that afternoon. We found a small sandy gap between the jagged volcanic rubble on Shipwreck Beach[3] outside our hotel and carefully boogie boarded among them. Until, that is, a Hawaiian family showed up with their own boogie boards, and the matriarch almost goggled at me with a stony face that said "I don't see you."

On the third day my wife and I sort of decided to just carry on like it wasn't raining. We walked from the hotel up onto a bluff. From here we could see a solitary monk seal somersaulting in a pool among the wave-lapped rocks below. We were about to head back (we were getting soaked) when we noticed an append—or more like a weblike network of paths—through the sandy pine orchard that grew along the lithified cliff. We wandered through these until eventually they converged on a trail that took us through the old burial ground of the kings of the island. We got

lucky and the rain lightened to a drizzle. Looking out over the ocean, the clouds were a lumpy but unpunctured, untouched low sheet below which even lower, closer clouds were marauding. Then the sheet was pulled back and the sun shone. That's the moment when I really remember it taking over: the seemingly inexplicable anxiety about my trip. I remember that up there, with a king's vista of the gray Pacific, something in me had turned the astray way. I was witnessing beauty, I knew, but the beauty was just making me watch the whisking clouds, worried about losing our pocket of good weather. This was the quiet beginning of my real botheredness regarding "experiences". We walked along the cliff until it dropped down to a remote beach. Fog opened and closed the landscape to us.

My sense is that a lot of people actually have a hard time traveling for leisure. There are some people, of course, who fail to really "get away" because they can't leave something behind. The classic image would be the honeymooner apologizing as she ducks into a room to take another call from work. When she isn't on the phone you can catch her staring into space.

Solutions to being elsewhere are, it seems to me, pretty straightforward under most circumstances. Shut off the phone. Then time is on your side. My distraction, by contrast, was a bit more insidious. It seemed to feed on the objectively good experiences of the trip itself. It wasn't that I couldn't see my perfect macadamia-crusted mahimahi[4] because my thoughts were elsewhere; to speak truthfully I could see my mahimahi very clearly. But it was like I aimed my fork at the fish but kept accidentally skewering something else—my future reminiscence of it. I wasn't elsewhere, but I seemed to inhabit a time other than the present. I wanted to be, as we say, "present". But my problem with presence seemed to be capable of feeding on my own awareness of it. "Just relax," I would tell myself. "Well, I can't relax when I'm anxious about relaxing," I would accurately reflect, and so forth as new and seemingly more nuanced forms of self-correction recommended themselves seductively as a solution to the problem they were creating.

The latter part of our trip contained some dry weather. On the first dry day, the sunny one, we went to the beach, and I nearly trod on the flipper of an endangered seal, as reported. On the second we went for a hike. The name of the mountain, the "Sleeping Giant", did not seem ominous. I thought that hiking would be exhausting enough to cut off oxygen to my new second self. A walk, Thoreau says somewhere, returns us to our senses.

The path up the Sleeping Giant had turned to black volcanic mud from the rain: wet and smooth and sticky like potter's slip. It made a sucking fup with each step up, then, on stepping down, tiny pip-popping noises as more mud oozed out and accumulated around the sides of our shoes. As we neared the top, another couple came down the path. I have no complaints about making such a clichéd choice of venue. But there is a strange feeling when one comes around a corner and stands face to face with what are obviously other honeymooners. Few times in my life have I felt so powerfully the idea of alternate selves. She had straight maroon hair. He had jeans on and was hiking in Chaco, with a minimal backpack and a bottle of water in his hand. This is when we would have exchanged exclamations on the incredible mud. But they passed us in silence down the notch path.

Who knows what their story was. I thought I saw in them the same sort of ingrown distraction I had. This was speculation of course. But there was, in fact, striking speechlessness to everyone we encountered on our honeymoon once the rain stopped. When it was raining we would talk about the weather. (I've never understood why people make fun of talking about the weather. Ay, it is of perennial consequence and thus never not interesting.) But once the weather was clear no one

wanted to say anything to each other.

As I said, the honeymoon as we know it, the trip, hasn't been around very long. It's pretty much a twentieth-century phenomenon. The term honeymoon, however, is much older. It used to refer more generally to the sweetness of the earliest days of a marriage. Some people think that the word comes from a tradition in some European cultures in which mead (fermented honey) was drunk by the new couple for the first moon of marriage. Mead was supposed to be sensual. This etymology is cunning but probably not accurate.

It is tempting to call the sixteenth- and seventeenth-century use of the word honeymoon sarcasm, but if you think about it that might be fluff of that age. It wasn't cynical to draw attention to the fact that "exceeding love" was going to fade from a new marriage, because back then love was not an ideal of married life. The institution had other priorities, for which the vagaries of love could be a problem. For the ruling and propertied classes, marriage was about connections and the control of inheritance. For the lower classes it was about these things, too, as well as a partnership for day-to-day labor. And it was an association pleasing to God. It wasn't until the Enlightenment that people began to believe that personal love and marriage were somehow essentially bound up together—that one would, in an ideal life, "marry for love". And it was much, much later than when we got to where we are now, the other extreme, when a loveless marriage is a monstrosity.

(Adapted from "Against Honeymoons", https://acculturated.com/daily-scene/against-honeymoons/, from *The Point Magazine*)

Notes

① Niagara Falls

Niagara Falls is the collective name for three waterfalls that straddle the international border between Canada and the United States; more specifically, between the province of Ontario and the state of New York. They form the southern end of the Niagara Gorge.

② avalanche

An avalanche (also called a snowslide or snowslip) is a rapid flow of snow down a sloping surface. Avalanches are typically triggered in a starting zone from a mechanical failure in the snowpack (slab avalanche) when the forces of the snow exceed its strength but sometimes only with gradual widening (loose snow avalanche). After initiation, avalanches usually accelerate rapidly and grow in mass and volume as they entrain more snow. If the avalanche moves fast enough some of the snow may mix with the air forming a powder snow avalanche, which is a type of gravity current.

③ Shipwreck Beach

Navagio Beach or Shipwreck Beach, is an exposed cove, sometimes referred to as "Smugglers Cove", on the coast of Zakynthos, in the Ionian Islands of Greece. Navagio Beach was originally known as Agios Georgios. On October 2, 1980, a freightliner, the MV Panagiotis, ran aground in the waters around Zakynthos Island right on Navagio Beach after stormy weather and bad visibility. Many people falsely claim the ship was smuggling contraband such as cigarettes, wine and women. The ship was abandoned and still rests buried in the limestone gravel of the beach that now holds the famous nickname Navagio Beach (Shipwreck Beach).

④ **mahimahi**

Mahimahi is a surface-dwelling ray-finned fish found in off-shore temperate, tropical and subtropical waters worldwide. Also widely called dorado and dolphin, it is one of two members of the Coryphaenidae family, the other being the pompano dolphinfish. Mahimahi means very strong in Hawaiian.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) In the nineteenth century, what was the "bridal tour"?
2) What was the reason for the transition from bridal tour to honeymoon?
3) What was the honeymoon about?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ In the nineteenth century newlyweds would travel to visit relatives who had failed to attend their wedding.
2) ________ For the mid-twentieth century, the honeymoon was quite absorbing because of the attention it drew to the bridal bed.
3) ________ When we arrived at the hotel we slept late only because the plane delayed.
4) ________ One of the most unforgettable moments would be the bridegroom apologizing as bride hides into a room to take another call from work.
5) ________ It was sarcastic to focus on the fact that "exceeding love" was going to forget a new marriage, because love was not an ideal of married life.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*

4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*

5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

Presbyterian	priory	jubilee	spook	quaker
embankment	rename	misnomer	nosey	trinity
conciliate	corporally	memento	remit	stigmatic

1) Under the circumstances, parents are justified in punishing their children ________.
2) Though Padre Pio would have preferred to suffer in secret, by early 1919, news about the ________ friar began to spread in the secular world.

3) Reindeer can ________ suddenly, so Nils Peder kneels calmly in the midst of the herd on which his livelihood depends.
4) I retrieved a small piece from the ruins as a ________—an undistinguished chunk of cast concrete decoration.
5) Don't be concerned about links to an artifact when you ________ that artifact or move it to another folder.
6) There is a need to ________ both parties, which will require a more refined strategy than before.
7) In the year of our lord 1247, in the City of London was founded the ________ of St. Mary of Bethlehem.
8) Is it fair to require online retailers to collect and ________ state sales tax?
9) It's a ________, but the historical transmutation of Milton's title we have to take as instructive.
10) Other markings are more subtle, but just as useful, in letting the ________ and bribe-hungry traffic police know who's who.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) To my grandparents' generation, the thundering of Niagara Falls was a rhetoric for newlywed sex, and going to Niagara was about stooping to an irresistible force of nature.
2) The next day, with the downfall of rain , all paradise-specific plans were pretty much miscarried. I thought maybe we could visit the nearby botanic gardens—this seemed rain-compatible—but on the phone the gardener informed me that the entry road had just washed away in an avalanche.
3) We wandered through these until eventually they converged on a trail that took us through the old burial ground of the kings of the island.
4) Looking out over the ocean, the clouds were a lumpy but unpunctured, untouched low sheet below which even lower, closer clouds were marauding.
5) For the ruling and propertied classes, marriage was about connections and the control of inheritance. For the lower classes it was about these things, too, as well as a partnership for day-to-day labor.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

strait	superfluous	twofold	jig	keel
alight	bereave	repertoire	snippet	vax

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) causeway — a. the activity of riding a sailboard
2) dome — b. a sailing or power boat used for pleasure
3) messenger — c. a revolvable platform

4) upholstery **d.** a dissenting religious body
5) windsurfing **e.** mutual relationship of parts
6) sect **f.** the materials used to make a soft covering especially for a seat
7) yacht **g.** a wet sloppy condition underfoot
8) turntable **h.** a movable support usually having diagonally spreading legs
9) symmetry **i.** a road following the ridge of a hill or of a range of hills
10) slosh **j.** an automatic device for regulating temperature
11) trestle **k.** a vaulted circular roof or ceiling
12) ridgeway **l.** one that flees from danger, duty, or legal or parental restraint
13) scum **m.** one who bears a message or does an errand
14) runaway **n.** extraneous matter or impurities formed on the surface of a liquid
15) thermostat **o.** a way of access or raised road typically across marshland

2. *Directions: Here are some words for practice. Please divide the words into groups. The first word of each group is given as an example.*

raisin	blackcurrant	pod	cloakroom	ketchup	lavatory	nightclub
candy	pantry	geranium	rink	pizza	battalion	currant
roe	billet	mayonnaise	granary	snowdrop	starch	herring

Group A: blackcurrant

____

____

Group B: candy

____

____

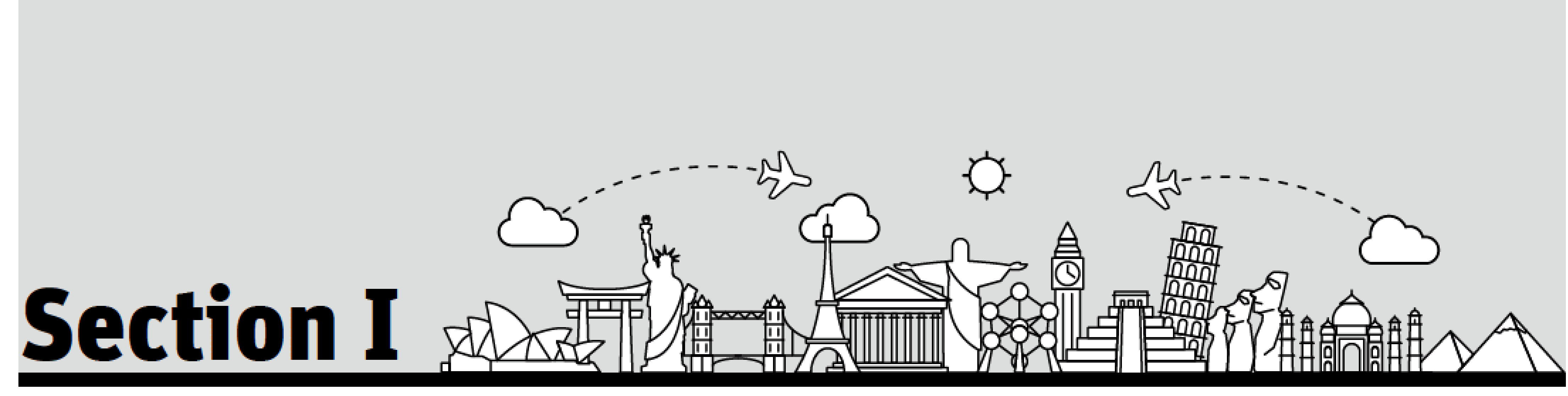
Group C: cloakroom

____

____



Unit 10
Science and Arts



Section I

Focus on Reading Longer Selections

In order to thoroughly understand a paragraph, readers usually need to answer three questions: what is the topic; what is the main idea; and which supporting details are central to understanding that main idea? Fortunately, the same questions apply to readings longer than a single paragraph. This part will show you how to adapt the reading skills you have learned about paragraphs to longer readings. It also introduces a crucial element of writing we have not discussed in relation to paragraphs—the writer's purpose.

Moving Beyond the Paragraph

Reading longer, multi-paragraph selections takes more time than reading single paragraphs. However, the extra time needed should not suggest to you that reading essays, articles, or chapter sections requires a brand-new set of skills totally different from the ones you use to read paragraphs. What you need to do, instead, is adapt the skills you practiced on paragraphs to make them suitable for longer, multi-paragraph selections. That means you need to understand exactly how the structure and content of multi-paragraph readings differ from single paragraphs, so that's where we'll start.

1) Titles and Headings Are Tip-offs

Single paragraphs don't usually have headings or titles. Longer readings do. Longer readings are likely to have titles, headings, even subheadings. Fortunately for readers, these titles and headings usually say a good deal about the reading's topic. For instance, if you are asked to read a chapter section titled "Brand Loyalty", you could correctly predict that the topic of the chapter section is "consumer attachment to a particular brand". Similarly, many textbooks use questions as titles—for example, "Is Romance Essential to Marriage?" The answer to the question is almost always the main idea of the reading.

2) One Main Idea Controls and Unifies the Others

Like paragraphs, longer readings are unified by one general main idea. In composition classes, this main idea is often called a thesis, and it usually appears in the first two or three paragraphs (if the reading is longer, the introduction of the main idea can also be delayed). The paragraphs that follow state or imply a new series of main ideas. However, these main ideas fulfill the function of supporting details. They clarify or prove the overall main idea. Your goal as the reader is to discover the overall or controlling main idea of the entire selection. Then you need to determine what the other paragraphs contribute to that overall point.

3) Topic Sentences Versus Thesis Statements

When you read a single paragraph, you should be on the lookout for topic sentences that sum up the main idea. With longer readings, you need to do the same. However, in extended readings

the main idea is not always summed up in one sentence. The longer the reading, the more likely it is that the author will need several sentences to develop the overall main idea. That's why the controlling or unifying main idea of a multi-paragraph reading is called the thesis statement.

4) Implied Main Ideas Are Slow to Emerge

Writers usually introduce the thesis statement at the beginning of a selection. Depending on the length of the reading, the thesis statement could be in the first paragraph or as far down as the fifth. While most writers almost never hold off the main idea until the very end of the reading, some do. But for chapter sections in textbooks, if you haven't spotted a thesis statement by the third or fourth paragraph, consider inferring a controlling main idea. Where other kinds of reading are concerned, you can't be completely sure that the main idea is unstated until you have finished the entire reading.

5) Major Supporting Details Expand Their Territory

When writers have more space at their disposal, they are free to explain their ideas at greater length. Thus, you'll notice in several of the following readings that the main idea of one supporting paragraph may be developed in two paragraphs rather than one. The author might, for instance, introduce a main idea, offer an illustration or two in one paragraph, and then provide two more illustrations of the same idea in the next paragraph.

6) Concluding Paragraphs Fulfill More Functions

In paragraphs, concluding sentences are likely to describe the outcome of some event or problem mentioned by the author. They don't necessarily provide direct support to the main idea. In longer readings, concluding paragraphs might also describe an outcome. But they are just as likely to summarize what came before and predict what's going to appear next.

The Writer's Purpose Becomes Clearer

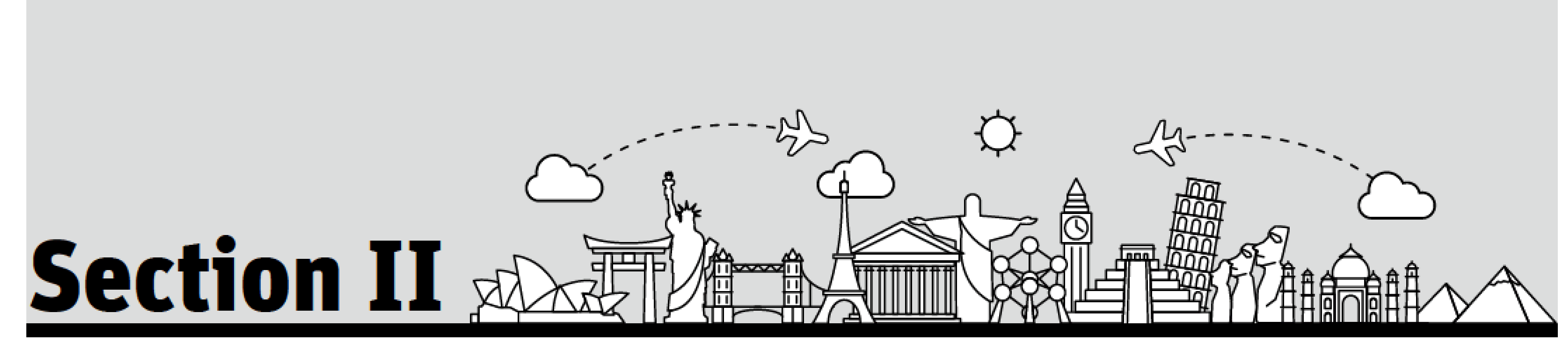
When you are dealing with single paragraphs, it's hard to make a decision about whether the author's primary purpose, or main intention in writing, is to inform or to persuade. Usually, you don't have enough information to make that call. Some readings begin with a paragraph offering a description of events and suggesting a purely informative intent. However, by the time you are through reading, a paragraph can switch to a call for action and end up with persuasion being its primary purpose. With longer readings, you have a number of paragraphs on which to base your inference or conclusion about the author's overall purpose. You also have more chances to study the author's word choice and relationship to readers, two key clues to use when determining purpose.

Tip 1: As soon as you see a title or heading, consider what it reveals about the material. Some titles do not reveal main ideas or the author's purpose—for example, "Shadow Juries". Others all but announce both—for example, "We Need to Question the Ethics of Shadow Juries."

Tip 2: If the author maintains a formal, impersonal style and does not offer a judgment or call for change, the primary purpose is probably informative, rather than persuasive.

Implied Main Ideas in Longer Readings

In longer readings, the controlling main idea is usually expressed in a thesis statement. Much of the time, that statement appears somewhere in the first three or four paragraphs, right after the title, heading, or introduction. However, authors do sometimes expect readers to infer the implied main idea that unifies the entire reading.



Section II

Text A: "The Light of Reason" or "the Light of Ambiguity"

Part 1　Power of Words

Core Words

① **qualitative** ['kwɒlətətɪv] ***adj.***

Qualitative means relating to the nature or standard of something, rather than to its quantity.

antonym	quantitative
word family	qualitatively
related phrase	qualitative analysis/study/research/change

Example 1 There are qualitative differences in the way children of different ages and adults think.

Example 2 You'll need to collect qualitative information—read local papers, talk to people there, and go out and see for yourself.

② **spectator** [spek'teɪtə] ***n.***

A spectator is someone who watches something, especially a sports event.

synonym	viewer; watcher; observer; onlooker; bystander; audience
antonym	participant
word family	spectate
related phrase	spectator sport

Example 1 Thirty thousand spectators watched the final game.

Example 2 The match attracted over 40,000 spectators.

③ **subjective** [səb'dʒektɪv] ***adj.***

Something that is subjective is based on personal opinions and feelings rather than on facts.

synonym	slanted; biased; prejudiced; skewed; one-sided
antonym	objective
word family	subjectively; subjectivity
related phrase	a highly subjective point of view; subjective judgement/opinion

Example 1 We know that taste in art is a subjective matter.

Example 2 As a critic, his writing is far too subjective.

④ **adjoin** [ə'dʒɔɪn] ***vt.*** **(adjoined/adjoined/adjoining)**

If one room, place, or object adjoins another, they are next to each other.

synonym connect; link up; attach; affix; be close to; abut upon; neighbor
antonym disjoin
word family adjoining
related phrase adjoin the park/the school

Example 1 The doctor's bedroom adjoined his wife's and the door between the rooms was always open.

Example 2 A barn adjoins the farmhouse.

⑤ instigate ['ɪnstɪgeɪt] *vt.* (instigated/instigated/instigating)

Someone who instigates an event causes it to happen.

synonym bring about; prompt; initiate; start; activate
antonym stifle
word family instigator
related phrase instigate change

Example 1 He did not instigate the coup or even know of it beforehand.

Example 2 Charles instigated a programme of reforms.

⑥ legible ['ledʒəbl] *adj.*

written or printed clearly enough for you to read

synonym clear; readable; intelligible; decipherable; understandable; defined; plain
antonym illegible
word family legibly; legibility; illegible
related phrase legible writing

Example 1 Legible writing is clear enough to read.

Example 2 Her handwriting was so tiny that it was barely legible.

⑦ ultra ['ʌltrə] *adj.*

extreme or immoderate, especially in beliefs or opinions

synonym extreme; radical; excessive; revolutionary
word family ultraconservative; ultranationalism; ultraviolet

Example 1 When you schedule your day, be ultra realistic with how much time each thing you need to get done will take.

Example 2 Their feminine design has from the very beginning created women with an edge and a look both recognizable and ultra personal.

⑧ errand ['erənd] *n.*

An errand is a short trip that you make in order to do a job, for example, when you go to a shop to buy something.

synonym task; duty; run; chore; job

related phrase on an errand; go on a fool's errand; go on errands; go on an errand; make an errand; errand boy

Example 1 I seemed to spend my life running errands for people.

Example 2 He quickly set out on his errand of mercy (= journey to help someone in danger).

⑨ **auxiliary** [ɔːgˈzɪljərɪ] ***adj.***

Auxiliary equipment is extra equipment that is available for use when necessary.

synonym supplementary; secondary; supporting

antonym main

related phrase auxiliary power/generator/equipment/system/verb

Example 1 He made his way to the auxiliary building and viewed the radioactive water collected on the floor.

Example 2 We have been informed by the British that the British Bases have been used so far to provide auxiliary services.

⑩ **motto** [ˈmɒtəʊ] ***n.*** **(*pl.* mottos/mottoes)**

A motto is a short sentence or phrase that expresses a rule for sensible behaviour, especially a way of behaving in a particular situation.

synonym imprese; maxim; slogan; saying; dictum; axiom

related phrase Olympic motto; school motto

Example 1 "Stay true to yourself" has always been his motto.

Example 2 "Be prepared" is the motto of the Boy Scouts.

⑪ **superstition** [ˌsuːpəˈstɪʃn] ***n.***

Superstition is belief in things that are not real or possible, for example magic.

synonym aberglaube; fallacy; delusion; misconception; fantasy; falsehood

word family superstitious; superstitiously

Example 1 Fortune-telling is a very much debased art surrounded by superstition.

Example 2 They told me the old superstition that walking under a ladder is unlucky.

⑫ **standstill** [ˈstændˌstɪl] ***n.***

If movement or activity comes to or is brought to a standstill, it stops completely.

synonym stop; stay; halt; stoppage; cessation

related phrase complete/absolute standstill; come to a standstill; bring sth. to a standstill; at a standstill

Example 1 Abruptly the group ahead of us came to a standstill.

Example 2 Strikers brought production to a standstill.

13 **posture** ['pɒstʃə] ***n.***

A posture is an attitude that you have toward something.

synonym bearing; stance; attitude; position
word family postural; posturing; posturer
related phrase posture towards

Example 1 The military machine is ready to change its defensive posture to one prepared for action.

Example 2 He tends to adopt a defensive posture towards new ideas.

14 **transfuse** [træns'fjuz] ***vt.*** **(transfused/transfused/transfusing)**

to permeate or infuse

synonym imbue; infuse; permeate
word family transfusion

Example 1 The teacher transfused a love of literature to his students.

Example 2 The sunlight transfused the bay.

15 **pompous** ['pɒmpəs] ***adj.***

If you describe someone as pompous, you mean that they behave or speak in a very serious way because they think they are more important than they really are.

synonym self-important; arrogant; haughty; pretentious; snobbish
antonym modest
word family pompously; pomposity
related phrase pompous manner

Example 1 He was somewhat pompous and had a high opinion of his own capabilities.

Example 2 Her pompous, middle-aged husband, Chanu, quickly rolls out the blueprint for her new life.

16 **trustworthy** ['trʌstˌwɜːðɪ] ***adj.***

A trustworthy person is reliable, responsible, and can be trusted completely.

synonym reliable; responsible; tried; honest; sure; dependable; truthful
antonym corrupt
word family trustworthiness; trusting; trusty; trustfulness; trustiness
related phrase trustworthy product

Example 1 He is a trustworthy and level-headed leader.

Example 2 In other circumstances, you might not consider me a trustworthy source of information about myself.

17 **unilateral** [ˌjuːnɪ'lætrəl] ***adj.***

A unilateral decision is made by only one of the groups, organizations, or countries that are involved in a particular situation, without the agreement of the others.

synonym	one-sided; independent; autonomous; individual
antonym	joint
word family	unilateralism; unilaterally
related phrase	unilateral declaration; unilateral disarmament

Example 1 Pakistan has described the U.S. raid on Sunday in Abbottabad as an "unauthorised unilateral action" and said it should not be taken as a rule.

Example 2 The Chinese Government never regards aid to other countries as a kind of unilateral alms but as something mutual.

⑱ demean [dɪ'mi:n] *vt.* (demeaned/demeaned/demeaning)

To demean someone or something means to make people have less respect for them.

synonym	degrade; debase; humiliate; put down; disgrace
antonym	uplift
word family	demeaning; demeanor
related phrase	demean yourself

Example 1 The official demeaned himself by accepting the bribe.

Example 2 Could you demean yourself by committing treason?

⑲ trendy ['trendɪ] *adj.*

If you say that something or someone is trendy, you mean that they are very fashionable and modern.

synonym	popular; fashionable; modern; tony; going; hip; cool
antonym	unfashionable
word family	trend; trendiness
related phrase	trendy shop

Example 1 But over dinner at a trendy St. Louis restaurant, he picked at his chicken and said he was afraid to hope.

Example 2 As Google has moved from trendy west coast start-up to major corporation, it has started to behave like a major corporation.

⑳ partake [pɑ:'teɪk] *vi.* (partook/partaken/partaking)

to share in or take part in something

synonym	participate; share; contribute; take part; play a part
antonym	refrain; abstain
word family	partaker
related phrase	partake in; partake of

Example 1 You will probably be asked about whether you partake in very vigorous sports.

Example 2 Users might not have an hour to learn everything, but if you break down key functions into smaller pieces, users can willingly partake.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

deliberated	giddy	implicit	indebted	parameter
perverse	petrify	phraseology	reunion	righteous
spokesperson	technicality	telecommunication	telegram	teletext

Part 2 Text

"The Light of Reason" or "the Light of Ambiguity"

What is it that makes mathematics mathematics? What are the precise qualitative characteristics that make mathematics into a discipline that is so central to every advanced civilization, especially our own? Many explanations have been attempted. One of these sees mathematics as the ultimate in rational expression; in fact, the expression "the light of reason" could be used to refer to mathematics. From this point of view, the distinguishing aspect of mathematics would be the precision of its ideas and its systematic use of the most stringent logical criteria. In this view, mathematics offers a vision of a purely righteous logical world. One way of expressing this view is by saying that the natural world obeys the rules of logic and, since mathematics is the most perfectly logical disciplines, it is not surprising that mathematics provides such a faithful description of reality. This view, that the deepest truth of mathematics is encoded in its formal, deductive structure, is definitely not the point of view that this book assumes. On the contrary, the book takes position that the logical structure, while important, is insufficient even to begin to account for what is really going on in mathematical practice, much less to account for the enormously successful application mathematics to almost all fields of human thought.

This book offers another deliberated vision of mathematics, a vision in which the logical is merely one dimension of a larger picture. This larger picture has room for a number of factors that have traditionally been omitted from a description of mathematics and are translogical—that is, beyond logic—though not illogical. Thus, there is a discussion of things like ambiguity, contradiction, and paradox that surprisingly, also have an essential role to play in mathematical practice.

The phenomenon of ambiguity is central to the description of mathematics that is developed in this book. In his description of his own personal development, Alan Lightman says, "Mathematics contrasted strongly with the ambiguities and contradictions in pet: The world of spectators had no certainty or logic." For this spokesperson, mathematics is the domain of certainty and logic. On the other hand, he is a subjective novelist who "realized that the ambiguities and complexities of human mind give fiction and perhaps all art its power". People divide up the arts from the sciences: ambiguity in one, certainty in the other. I suggest that mathematics is also a human, creative activity. As such, ambiguity plays a role in mathematics that is analogous to the role it plays in art—it imbues mathematics with depth and power.

Ambiguity intrinsically adjoins creativity. I propose a definition of ambiguity that is instigated

from a study of creativity. The description of mathematics that is to be sketched in this book will be a legible description that is grounded mathematical practice—what mathematicians actually do—and, therefore, must include an account of the great creativity of mathematics. We shall see that many creative insights of mathematics are out of ambiguity, that in a sense the deepest and most revolutionary ideas come out of the most profound ambiguities. Mathematical ideas may even arise out of ultra contradiction and paradox. Thus, eliminating the ambiguous from mathematics by focusing, exclusively on its logical structure has the unwanted effect of making it impossible to describe the creative side of mathematics.

My errand is to demonstrate how mathematics transcends these two opposing views: to develop a picture of mathematics that eludes the logical and the ambiguous, that situates itself equally the development of vast deductive systems of the most giddy order and in the birth of the extraordinary leaps of creativity that have changed the world and our understanding of the world.

This is a book about mathematics, yet it is not your average auxiliary mathematics book. Even though the book contains a great deal of mathematics, it does not systematically develop any particular mathematical subject. The subject is mathematics as a whole—its methodology and conclusions, but also its culture. The book puts forward instead a new vision of what mathematics is all about. It concerns itself not only with the culture of mathematics in its own right, but also with the place of mathematics in the larger scientific and general culture.

The perspective that is being developed here depends finding the right way to think about mathematical rigor, that is, logical, deductive thought. Why is this way of thinking so attractive?

For us, as for them, rational thought stands in contrast to a world that is all too often beset with chaos, confusion, and superstition. The "dream of reason" is the dream of order and predictability and, therefore, of the power to control the natural world. The means through which we attempt to implement that dream are mathematics, science, and technology. People who subscribe to this view of the world might think that it is the role of mathematics to eliminate ambiguity, contradiction, a paradox as impediments to the success of rationality. Such phraseology might well equate mathematics with its formal, deductive structure. This viewpoint is incomplete, simplistic and petrifying. It is dangerous and perverse because it ignores one of the most basic aspects of human nature—in mathematics or elsewhere—our aesthetic dimension, our originality and ability to innovate. In this regard let us take note of the motto of famous musician, Leonard Bernstein[1]: "Ambiguity ... is one of art's most potent aesthetic functions. The more ambiguous, the more expressive." His words apply not only to music and art, but surprisingly also to science and mathematics.

Understanding ambiguity and its role in mathematics will hint at a new kind of organizational principle for mathematics and science, a principle that includes classical logic but goes beyond it and never at a standstill. This new principle will be generative—it will allow for the dynamic development of mathematics. As opposed to the static nature of logic with its absolute dichotomies, a generative principle will allow for the existence of mathematical creativity, be it in research or in individual acts of understanding. Thus "ambiguity" will force a reevaluation of the essence of mathematics.

Mathematics is one of the most profound creations of the human mind. This attitude reveals a posture of reverence, for mathematics that is occasioned by the sense that nature has a secret code that reveals her hidden order. The immediate evidence from the natural world may seem to be

chaotic and without any inner regularity, but mathematics transfuses that an unexpected simplicity, a pompous beauty and order exist.

What is mathematics? More than anything else, mathematics is a trustworthy way of approaching the world that is absolutely unique. It cannot be reduced to some other subject that is more elementary in the way it is claimed that chemistry can be reduced to physics. Mathematics is irreducible. Other subjects may use mathematics, may even be expressed in a totally mathematical form or parameters, but mathematics has no other subject that stands in relation to it in the way that it stands in relation to other subjects. Mathematics is an implicit unilateral way of knowing—a unique way of knowing.

From its roots in our biology, human beings have developed mathematics as a vast cultural project that spans the ages and all civilizations. Thus, this book contains a fair amount of actual mathematical content, some very elementary and some less so. The reader who finds some topic obscure is advised to skip it and continue reading. The mathematics that is discussed is there for two reasons: first, because it is intrinsically interesting, and second, because it contributes to the discussion of the nature of mathematics in general. Thus, a subject may be introduced in one chapter and returned to in subsequent chapters.

Many people feel that such a human perspective on mathematics would demean it in some way, diminish its claim to be revealing absolute, objective truth. To anticipate the discussion Unit 8 in this book, I shall claim that mathematical truth exists, but is not to be found in the content of any particular theorem or set of theorems. The intuition that mathematics accesses the truth is correct, but not in the manner that it is usually understood. The truth is to be found more in the fact than in the content of mathematics. Thus it is consistent, in my view, to talk simultaneously about the truth of mathematics and about its contingency.

We do not have to look very far to see the importance—mathematics in practically every aspect of contemporary life. To begin with, mathematics is the technicality of much of science. This statement has a double meaning. The normal meaning is that the natural world contains patterns or regularities that we call scientific laws and mathematics is a convenient language in which to express these laws. This would give mathematics a descriptive and predictive role. And yet, to many, there seems to be something deeper going with respect to what has been called "the unreasonable effectiveness of mathematics in the natural sciences". Certain of the basic constructs of science is in reunion with their mathematical formulation. An electron is its mathematical description via Schrodinger equation[2]. In this sense, we cannot see any deeper the mathematics. This latter view is close to the one that holds that there exists a mathematical, Platonic substratum to the real world. We cannot get closer to reality than mathematics because the mathematical level is the deepest level of the real. It is this deeper level that has alluded to by the brilliant thinkers that were mentioned above. This deeper level was also what I meant by calling mathematics irreducible.

Our contemporary civilization has been built upon and is indebted to a mathematical foundation. Telecommunication, telegram, teletext, computers, the Internet, CDs, and DVDs are aspects of a digital revolution that is reshaping the world. All these trendy technologies involve representing the things we see and hear, knowledge, and the contents of our communications in digital form, that is, reducing these aspects of our lives to a common numerical basis. Medicine, politics, and social policy are all increasingly expressed in the language of the mathematical and statistical sciences. No area of modern life can escape from this mathematization of world.

If the modern world stands on a mathematical foundation, it behooves every thoughtful, educated person to attempt to partake some familiarity with the world of mathematics. Not only with some particular subject, but with the culture of mathematics, with the manner in which mathematicians think and the manner in which they see this world of their own creation.

(Adapted from "'The Light of Reason' or 'the Light of Ambiguity'", https://wenku.baidu.com/view/6ea8cc45ce2f0066f4332242.html, written by William Byers)

Notes

① Leonard Bernstein

Leonard Bernstein (August 25, 1918–October 14, 1990) was an American composer, conductor, author, music lecturer, and pianist. He was among the first conductors born and educated in the U.S. to receive worldwide acclaim. According to music critic Donal Henahan, he was "one of the most prodigiously talented and successful musicians in American history".

His fame derived from his long tenure as the music director of the New York Philharmonic, from his conducting of concerts with most of the world's leading orchestras, and from his music for *West Side Story*, *Peter Pan*, *Candide*, *Wonderful Town*, *On the Town*, *On the Waterfront*, his *Mass*, and a range of other compositions, including three symphonies and many shorter chamber and solo works.

Bernstein was the first conductor to give a series of television lectures on classical music, starting in 1954 and continuing until his death. He was a skilled pianist, often conducting piano concertos from the keyboard.

As a composer he wrote in many styles encompassing symphonic and orchestral music, ballet, film and theater music, choral works, opera, chamber music and pieces for the piano. Many of his works are regularly performed around the world, although none has matched the tremendous popular and critical success of *West Side Story*.

② Schrodinger equation

In quantum mechanics, the Schrodinger equation is a mathematical equation that describes the changes over time of a physical system in which quantum effects such as wave-particle duality, are significant. The equation is a mathematical formulation for studying quantum mechanical systems. It is considered a central result in the study of quantum system and its derivation was a significant landmark in developing the theory of quantum mechanics. It was named after Erwin Schrödinger, who derived the equation in 1925 and published it in 1926, forming the basis for his work that resulted in Schrödinger being awarded the Nobel Prize in Physics in 1933. The equation is a type of differential equation known as a wave-equation, which serves as a mathematical model of the movement of waves.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) According to the expression of "the light of reason", what would be the distinguishing aspect of mathematics?
2) According to the text, what's the dream of reason?
3) What do the understanding of ambiguity and its role in mathematics hint?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ Mathematics is one of the most logical subjects.
2) ________ Alan Lightman believes mathematics is the field of certainty and logic only.
3) ________ This passage is an introduction of a mathematical methodology and culture book which differs from the traditional mathematics textbook.
4) ________ The book contains a fair amount of actual mathematical content, some very elementary and some less so. The reader who finds some topic obscure is advised to quit reading.
5) ________ Human civilization has been built upon a series of mathematical or digital innovations.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

shriek	standstill	binoculars	superimpose	qualitative	mutant	eyelid
motto	potion	errand	unilateral	blazer	Au	piper
innings	scour	statesman	earl	treacle	butler	

1) All of a sudden he let out a piercing ________.
2) We should not ________ our value judgment on other countries.
3) She lifted one ________ to see what he was doing.
4) Love is the best refreshing ________.
5) To be a ________ it is necessary to practice for several years.
6) Nature produces a ________ that can overcome this resistance.
7) She wore her cleanest slacks, a clean shirt and a navy ________.
8) He found the ________ and focused them on the boat.
9) ________ is the chemical symbol for gold.

10) The home side were all out for 62 points in their second ________.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) What is it that makes mathematics mathematics? What are the precise qualitative characteristics that make mathematics into a discipline that is so central to every advanced civilization, especially our own?
2) As such, ambiguity plays a role in mathematics that is analogous to the role it plays in art—it imbues mathematics with depth and power.
3) We shall see that many creative insights of mathematics are out of ambiguity, that in a sense the deepest and most revolutionary ideas come out of the most profound ambiguities.
4) It concerns itself not only with the culture of mathematics in its own right, but also with the place of mathematics in the larger scientific and general culture.
5) The normal meaning is that the natural world contains patterns or regularities that we call scientific laws and mathematics is a convenient language in which to express these laws.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

handshake	bunny	rabbi	racket	incense
totter	tracer	volley	walnut	wand
jingle	viscount	newcomer	trespass	Nigeria

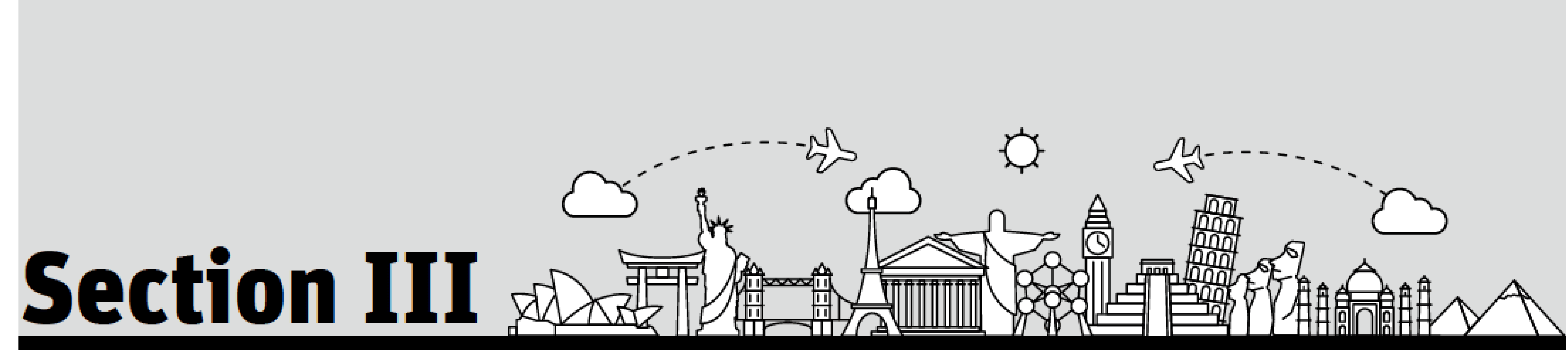
V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) overhaul	a. to review evidence and argumentation, including legal reasoning
2) freehold	b. a state in which one object uses a function of another object
3) hindsight	c. of or related to the anus
4) bran	d. the hard outer layers of cereal grain
5) circumcise	e. to cut the skin over the clitoris
6) dependency	f. an estate held in fee simple or for life
7) gob	g. a man who serves as a sailor
8) anal	h. understanding the nature of an event after it has happened.
9) adjudicate	i. to make repairs or adjustment to
10) pedestal	j. a support or foundation

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1)	(　　)	A. overalls	B. overdose	C. overgrow	D. overspend
2)	(　　)	A. roster	B. rota	C. pellet	D. payroll
3)	(　　)	A. dissuade	B. rebuke	C. sellotape	D. shrug
4)	(　　)	A. orgasm	B. contraceptive	C. prat	D. swivel



Section III

Text B: The Power of Mozart

Part 1 Power of Words

Core Words

① **wizard** ['wɪzəd] ***n.***

someone who is dazzlingly skilled in any field

synonym adept; genius; whizz; whiz; champion

Example 1 That made this financial wizard, with degrees in mathematics, physics, electrical engineering and acoustics, quite rich.

Example 2 Ben's a real wizard at chess.

② **obscene** [əb'siːn] ***adj.***

If you describe something as obscene, you mean it offends you because it relates to sex or violence in a way that you think is unpleasant and shocking.

synonym coprological; nasty

antonym elegant; modest; decent

Example 1 I'm not prudish but I think these photographs are obscene.

Example 2 The obscene part of the film should be censored.

③ **imp** [ɪmp] ***n.***

a child who behaves badly, but in a way that is funny

synonym kid; monkey

word family impish; impishness

Example 1 Is the imp altogether evil?

Example 2 You're pretty sharp, little imp!

④ **hearsay** ['hɪəseɪ] ***n.***

Hearsay is information which you have been told but do not know to be true.

synonym rumor; gossip

antonym truth; fact

related phrase earthquake hearsay

Example 1 The attorney for the defense challenged the evidence as hearsay.

Example 2 Rumor, myth and hearsay obscure the truth after months of bloodshed.

⑤ **symphony** ['sɪmfənɪ] ***n.*** **(*pl.* symphonies)**

A symphony is a piece of music written to be played by an orchestra; Symphonies are usually made up of four separate sections called movements.

synonym sinfonia
word family symphonic

Example 1 Beethoven's *Ninth Symphony* is a glorious piece of music.

Example 2 The London Symphony Orchestra broadcasts every Sunday on London Station.

⑥ **quarrel** ['kwɔ:rəl] ***n.*** **(quarreled/quarreled/quarreling)**

If you say that you have no quarrel with someone or something, you mean that you do not disagree with them.

synonym debate; exchange words
antonym harmonize
related phrase quarrel with sth./sb.

Example 1 The little prince has escaped from his tiny planet, because he has some quarrel with a rose, which grows on his planet.

Example 2 Tom did take sides in the quarrel between them.

⑦ **grievous** ['gri:vəs] ***adj.***

If you describe something such as a loss as grievous, you mean that it is extremely serious or worrying in its effects.

synonym painful; severe; bitter
word family grievously; grief
related phrase grievous bodily harm; grievous fault; grievous news; grievous pain

Example 1 Mr. Morris said the victims had suffered from a very grievous mistake.

Example 2 I say to the House as I said to Ministers who have joined this government, I have nothing to offer but blood, toil, tears and sweat. We have before us an ordeal of the most grievous kind.

⑧ **tremble** ['trembl] ***vi.*** **(trembled/trembled/trembling)**

If you tremble, you shake slightly because you are frightened or cold.

synonym quiver; shiver; quake; thrill
related phrase tremble in the balance; tremble for; tremble at

Example 1 His mouth became dry, his eyes widened, and he began to tremble all over.

Example 2 Lisa was white and trembling with anger.

⑨ **anecdotal** [ˌænɪk'dəʊtl] ***adj.***

Anecdotal evidence is based on individual accounts, rather than on reliable research or statistics,

and so may not be valid.

synonym subjective; unreliable; untrustworthy
antonym objective
word family anecdote; anecdotist; anecdotage; anecdotic

Example 1 Most if it tends to be anecdotal but we wanted to see whether it was true.

Example 2 Anecdotal evidence suggests that sales in the Southwest have slipped.

⑩ **forte** ['fɔːteɪ] ***n.***

You can say that a particular activity is your forte if you are very good at it.

synonym strength; excellence
antonym weakness; demerit
related phrase be sb.'s forte

Example 1 Languages were never my forte.

Example 2 His forte is after-dinner speeches.

⑪ **cerebral** ['serɪbrəl] ***adj.***

Cerebral means relating to the brain.

synonym encephalic; cranic
word family cerebrum
related phrase cerebral infarction; cerebral hemorrhage

Example 1 Your left cerebral hemisphere controls the right-hand side of your body.

Example 2 The patient died from acute cerebral hemorrhage.

⑫ **squeak** [skwiːk] ***vi.*** **(squeaked/squeaked/squeaking)**

If something or someone squeaks, they make a short, high-pitched sound.

word family squeaker; squeaky

Example 1 A rat squeaked and ran into the bushes.

Example 2 The door squeaked open.

⑬ **sprint** [sprɪnt] ***vi.*** **(sprinted/sprinted/sprinting)**

If you sprint, you run or ride as fast as you can over a short distance.

synonym spurt

Example 1 She began to sprint on the last two laps.

Example 2 If you sprint across a street, you know if you take one round you could be a dead man.

⑭ **enrich** [ɪn'rɪtʃ] ***vt.*** **(enriched/enriched/enriching)**

To enrich something means to improve its quality, usually by adding something to it.

synonym enhance; improve; deepen; augment
antonym impoverish; pauperize

word family enrichment
related phrase enrich yourself

Example 1 This vacation is about to let me regain a lost friendship. Let me learn how to enrich my own life.

Example 2 Education can enrich your life.

⑮ **bristle** ['brɪsl] ***vi.*** **(bristled/bristled/bristling)**

to behave in a way that shows you are very angry or annoyed

synonym anger; chafe at
related phrase bristle with sth.; bristle at

Example 1 Senior police officers continued to bristle at government criticism that they reacted poorly to the disorder.

Example 2 She had been discussing a new kind of label that takes into account the wearer's shape, but expected retailers to bristle.

⑯ **coma** ['kəʊmə] ***n.***

Someone who is in a coma is in a state of deep unconsciousness.

synonym stupor; exanimation
related phrase in a coma

Example 1 She had slipped into a coma by the time she reached hospital.

Example 2 He is in a coma and on a life-support machine.

⑰ **pare** [peə] ***vt.*** **(pared/pared/paring)**

If you pare something down or back, or if you pare it, you reduce it.

synonym reduce; slash
antonym increase; augment
related phrase pare sth. down

Example 1 The list was pared down for the final interviews.

Example 2 Pare the brown skin from the meat with a very sharp knife.

⑱ **revitalize** [riː'vaɪtəlaɪz] ***vt./vi.*** **(revitalized/revitalized/revitalizing)**

To revitalize something that has lost its activity or its health means to make it active or healthy again.

word family revitalization

Example 1 Chinese schools should also be part of any attempt to revitalize soccer in China.

Example 2 I think we have to revitalize our society.

⑲ **moderate** ['mɒdəreɪt] ***vt.*** **(moderated/moderated/moderating)**

If you moderate something, it becomes less extreme or violent and easier to deal with or accept.

synonym	alleviate; ease
antonym	intensify; aggravate
word family	moderation

Example 1 She should moderate her language when children are present.

Example 2 He learnt to moderate his anger.

⑳ **diagnosis** [ˌdaɪəg'nəʊsɪs] ***n.*** **(*pl.* diagnoses)**

Diagnosis is the discovery and naming of what is wrong with someone who is ill or with something that is not working properly.

synonym	diacrisis
word family	diagnose; diagnostic; diagnostician
related phrase	differential diagnosis; laboratory diagnosis

Example 1 The doctor was out in his diagnosis.

Example 2 I lived with that diagnosis all day.

Words for Self-study

Please find and memorize the meanings and usages of the following words with the help of dictionaries, online resources and other references.

adrenalin	amenity	chant	headphone	jealousy
legend	masterpiece	mellow	merchandise	municipal
pathology	repetitive	ruthless	spatial	spotlight
syllable	syndicate	tentative	unsettle	upturn
wayside				

Part 2 Text

The Power of Mozart

Katia Eliad, a Paris-based artist, was stuck in a rut. She felt blocked in her creativity, out of touch with herself and for some inexplicable reason unable to use green or blue in her abstract paintings. So last spring, she started an unusual treatment: daily two-hour sessions of Mozart's music for three weeks at a time, filtered through special vibrating headphones that sometimes cut out the lowest tones. The upturn impact, she says, was dramatic. "I'm much more at ease with myself, with people, with everything," says Eliad, 33. "It feels like I've done 10 years of psychoanalysis in just eight months." Blue and green are back in her palette. As for Mozart, "he's become like a grandfather who calms you when you wake up in the middle of a nightmare."

Wolfgang Amadeus Mozart[1] was born 250 years ago, on January 27, 1756, and lavish

celebrations are being planned around the world to celebrate his anniversary. This year of spotlight will be filled with his music, but it will also be a time to reexamine the contradictions and conflicting interpretations of his brief ruthless 35-year life. He has been cast in many roles: the infant wizard paraded around European courts by his father; the foulmouthed imp whose letters attest to a fondness for obscene jokes. One widespread hearsay has him buried in a wayside pauper's grave. Another unproven legend, given widespread credence thanks to the hit movie *Amadeus*[2], depicts him as the victim of jealousy from his court rival Antonio Salieri[3]. Fervent admirers have argued that he was divinely inspired, but some modern psychologists detect an infantile-regressive personality. And if he were alive today, says Herbert Brugger of the Salzburg tourism office, he would be "a pop star—somewhere between Prince, Michael Jackson[4] and Robbie Williams[5]".

There's little new about such typecasting. But over the past decade, Mozart with his symphony has increasingly been placed in a role that is perhaps the most quarreling of all: as healer of mind and body. In this New Age interpretation, Mozart is the ultimate composer—therapist whose music can help treat ailments and even, it is claimed, make you and your kids smarter. Some of these claims are based on science. One neurosurgeon in Chicago has conducted studies that show certain Mozart masterpiece can reduce the grievous severity and frequency of epileptic seizures in some trembling patients, while researchers in Irvine, California, have found that some people with Alzheimer's are better able to perform mental tests after listening to Mozart for 10 minutes.

But much of the supporting material is anecdotal. Few national authorities officially recognize the treatment, and traditional music therapists are deeply skeptical.

By far the most widespread—and most disputed—recent claim is that the forte of Mozart can enhance your cerebral power. That notion was first given scientific support in a 1993 article in *Nature*, which found that college students who listened to the first movement of Mozart's *Sonata for Two Pianos in D Major* performed better on a spatial reasoning test that involved mentally unfolding a piece of paper. The study's main author, Frances Rauscher, an associate professor at the University of Wisconsin who is also a cellist, went on to do a similar test using laboratory squeaking rats. They were exposed to the same piano sonata in uterus and for two months after birth, and then let loose in a maze. There they sprinted out far quicker than three other groups of rats, which had been exposed to white noise, silence or a highly repetitive piece by American composer Philip Glass.

In the decade since, these studies have sparked an academic storm, with many of Rauscher's peers either refining or debunking her findings. Other researchers have had mixed success in replicating her results. But her work received widespread media attention and gave rise to a pop-psychology trend known as the "Mozart effect". Plenty of Mozart compilation CDs merchandise that promise to enhance intelligence are now on the market, with titles such as *Mozart for Mommies and Daddies—Jumpstart Your Newborn's IQ*. The claims have had social-policy repercussions: in 1998, the U.S. state of Georgia began handing out classical-music CDs to the parents of all infants, and there are similar programs in municipal governments in Colorado, Florida and elsewhere.

Behind much of this syndicate is a U.S. musician named Don Campbell, who is not a scientist and had nothing to do with the original research, but who quickly trademarked the term "Mozart effect", and has written two best-selling books on the subject and compiled more than a dozen CDs. "In an instant, enriched mellow music with its syllable can uplift our soul and raise our adrenalin. It awakens within us the spirit of prayer, compassion and love," he writes. "It clears our unsettled

minds and has been known to make us smarter."

Rauscher is both bemused and sometimes amused by such rank commercialization. "At least somebody managed to make money out of it," she says. But she bristles at the way her findings are misrepresented. "Nobody ever said listening to Mozart makes you smarter," she complains, pointing out that her research showed only a temporary and limited improvement in the student's spatial reasoning, rather than a sustained and general increase in IQ. Today, she's even revising her own initial conclusions in the light of subsequent research by others, working on a book tentatively titled *Music and the Mind Beyond the Mozart Effect*. Listening to Mozart, she now reckons, may not be as important for the brain as the general sense of mood of arousal brought about by doing something that is enjoyable.

Scientific studies show that many different areas of the brain are activated when a person listens to music. There's also some overlap between the areas of the brain most responsive to music and those used in spatial reasoning. But beyond that, there's little certainty as to why some pieces of music impulse more than others—and even less understanding of music's sometimes soothing effects.

Why should Mozart's music be the focal point of this debate, rather than other classical composers such as Bach[6], Beethoven[7] or Chopin[8]? Many sounds, from Hindu chanting to the noise of the surf breaking on a shore, are believed to be therapeutic.

As for classical music, Gérard Mortier, the director of the Paris opera, is one of many who reckons that Mozart isn't the only composer who soothes. "You find the most appropriate music for the pathology," Mortier says. "For some people it might be (Johann Sebastian Bach's) 'Goldberg' Variations. For others it might be the second act of (Richard Wagner's) Tristan and Isolde. For a third it could be a Schubert quartet, and for another it's Mozart."

Still, John Hughes reckons Mozart yields the best amenity results. He's a neurologist at the University of Illinois Medical Center who specializes in epilepsy. One day a colleague handed him a tape of the same Mozart sonata that Rauscher used in her studies. The next morning, he tried it out on a patient in a coma, and was stunned to find that it substantially pared the frequency of seizures. He followed up with a series of studies on 36 patients; 29 of them responded in the same way to the music. "There's no question about it, about 80% of the time it has a beneficial effect on seizures," he says. That's when he started testing other classical music on patients, only to find that Mozart was consistently the most effective and revitalizing on his epileptic patients.

The key, he believes, lies in the way Mozart repeated his melodies. "He turned a melodic line upside down and inside out. That gave people a new pattern." Some of Bach's music scored highly, as did works by Mendelssohn and Haydn. But Mozart's musical sequences tend to repeat regularly every 20–30 seconds, which is about the same length of time as brain-wave patterns and other functions of the central nervous system. His conclusion is that the moderated frequency of patterns in Mozart's music counteracts irregular firing patterns of epilepsy patients. Unlike the IQ tests, Hughes says, the response he measured through diagnosis has nothing to do with theories of mood and arousal: "Most of my patients are in a coma so you couldn't explain it as, 'I feel better so I perform better.' This is a direct effect on the brain."

(Adapted from "The Power of Mozart", http://tomatisparis.com/presse/time/index.php?Titel=Time, from *Time*)

Notes

① Wolfgang Amadeus Mozart

Wolfgang Amadeus Mozart (January 27, 1756–December 5, 1791) was a prolific and influential composer of the Classical era.

Born in Salzburg, he showed prodigious ability from his earliest childhood. Already competent on the keyboard and violin, he composed from the age of five and performed before European royalty. At 17, Mozart was engaged as a musician at the Salzburg court, but grew restless and traveled in search of a better position. While visiting Vienna in 1781, he was dismissed from his Salzburg position. He chose to stay in the capital, where he achieved fame but little financial security. During his final years in Vienna, he composed many of his best-known symphonies, concertos, and operas, and portions of the *Requiem*, which was largely unfinished at the time of his death. The circumstances of his early death have been much mythologized. He was survived by his wife Constanze and two sons.

He composed more than 600 works, many acknowledged as pinnacles of symphonic, concertante, chamber, operatic, and choral music. He is among the most enduringly popular of classical composers, and his influence is profound on subsequent Western art music. Ludwig van Beethoven composed his own early works in the shadow of Mozart, and Joseph Haydn wrote: "Posterity will not see such a talent again in 100 years."

② *Amadeus*

Amadeus is a 1984 American period drama film directed by Miloš Forman, adapted by Peter Shaffer from his stage play *Amadeus*. The story, set in Vienna, Austria, during the latter half of the 18th century, is a fictionalized biography of Wolfgang Amadeus Mozart. Mozart's music is heard extensively in the soundtrack of the movie. Its central thesis is that Antonio Salieri, an Italian contemporary of Mozart is so driven by jealousy of the latter and his success as a composer that he plans to kill him and to pass off a *Requiem*, which he secretly commissioned from Mozart as his own, to be premiered at Mozart's funeral. Historically, the *Requiem*, which was never finished, was commissioned by Count von Walsegg, and Salieri, far from being jealous of Mozart, was on good terms with him and even tutored his son after Mozart's death.

The film was nominated for 53 awards and received 40, which included eight Academy Awards (including Best Picture), four BAFTA Awards, four Golden Globes, and a Directors Guild of America (DGA) Award.

③ Antonio Salieri

Antonio Salieri (August 18, 1750–May 7, 1825) was an Italian classical composer, conductor, and teacher. He was born in Legnago, south of Verona, in the Republic of Venice, and spent his adult life and career as a subject of the Habsburg Monarchy.

Salieri was a pivotal figure in the development of late 18th-century opera. As a student of Florian Leopold Gassmann, and a protégé of Gluck, Salieri was a cosmopolitan composer who wrote operas in three languages. Salieri helped to develop and shape many of the features of operatic compositional vocabulary, and his music was a powerful influence on contemporary composers.

④ Michael Jackson

Michael Joseph Jackson (August 29, 1958–June 25, 2009) was an American singer, songwriter, record producer, dancer, actor, and philanthropist. Called the "King of Pop", his contributions to music, dance, and fashion along with his publicized personal life made him a global figure in popular culture for over four decades.

⑤ Robbie Williams

Robert Peter "Robbie" Williams (born on February 13, 1974) is an English singer, songwriter and actor. He was a member of the pop group Take That from 1990 to 1995 and again from 2009 to 2012. He has also had commercial success as a solo artist.

Williams rose to fame in Take That's first run in the early-to-mid-1990s. After many disagreements with the management and group members, Williams left the group in 1995 to launch a solo career, in which all but one of his 11 studio albums have reached number one in the U.K.. Williams also released seven number-one singles. On 15 July 2010, he rejoined Take That. The group's subsequent album *Progress* became the second fastest-selling album in U.K. chart history and the fastest-selling record of the century at the time. Gary Barlow has since confirmed that Williams had left for a second time, although the departure was amicable and that Williams was welcomed to rejoin the band in the future.

⑥ Bach

Johann Sebastian Bach (March 31, 1685–July 28, 1750) was a German composer and musician of the Baroque period. He enriched established German styles through his skill in counterpoint, harmonic and motivic organisation, and the adaptation of rhythms, forms, and textures from abroad, particularly from Italy and France. Bach's compositions include the *Brandenburg Concertos*, the *Goldberg Variations*, the *Mass in B Minor*, two *Passions*, and over three hundred cantatas of which around two hundred survive. His music is revered for its technical command, artistic beauty, and intellectual depth.

Bach's abilities as an organist were highly respected during his lifetime, although he was not widely recognised as a great composer until a revival of interest in and performances of his music in the first half of the 19th century. He is now generally regarded as one of the greatest composers of all time.

⑦ Beethoven

Ludwig van Beethoven (December 17, 1770–March 26, 1827) was a German composer and pianist. A crucial figure in the transition between the Classical and Romantic eras in Western art music, he remains one of the most famous and influential of all composers. His best-known compositions include 9 symphonies, 5 piano concertos, 1 violin concerto, 32 piano sonatas, 16 string quartets, his great Mass the *Missa Solemnis*, and one opera, *Fidelio*.

Born in Bonn, then the capital of the Electorate of Cologne and part of the Holy Roman Empire, Beethoven displayed his musical talents at an early age and was taught by his father Johann van Beethoven and by composer and conductor Christian Gottlob Neefe. At the age of 21 he moved to Vienna, where he began studying composition with Joseph Haydn and gained a reputation as a virtuoso pianist. He lived in Vienna until his death. By his late 20s his hearing began to deteriorate, and by the last decade of his life he was almost completely deaf. In 1811

he gave up conducting and performing in public but continued to compose; many of his most admired works come from these last 15 years of his life.

⑧ Chopin

Frédéric François Chopin (March 1, 1810–October 17, 1849) was a Polish composer and virtuoso pianist of the Romantic era who wrote primarily for the solo piano. He gained and has maintained renown worldwide as a leading musician of his era, whose "poetic genius was based on a professional technique that was without equal in his generation". Chopin was born in what was then the Duchy of Warsaw and grew up in Warsaw, which in 1815 became part of Congress Poland. A child prodigy, he completed his musical education and composed his earlier works in Warsaw before leaving Poland at the age of 20, less than a month before the outbreak of the November 1830 Uprising.

At 21 he settled in Paris. Thereafter, during the last 18 years of his life, he gave only 30 public performances, preferring the more intimate atmosphere of the salon. He supported himself by selling his compositions and by teaching piano lessons, for which he was in high demand. Chopin formed a friendship with Franz Liszt and was admired by many of his musical contemporaries, including Robert Schumann. In 1835 he obtained French citizenship. After a failed engagement to Maria Wodzińska from 1836 to 1837, he maintained an often troubled relationship with the French woman writer George Sand. A brief and unhappy visit to Majorca with Sand in 1838–1839 was one of his most productive periods of composition. In his last years, he was financially supported by his admirer Jane Stirling, who also arranged for him to visit Scotland in 1848. Through most of his life, Chopin suffered from poor health. He died in Paris in 1849, at the age of 39, probably of tuberculosis.

Part 3 Exercises

I. Reading Comprehension

1. *Directions: Read through the passage and answer the questions based on your understanding.*

1) What was the unusual treatment for Katia Eliad, last spring?
2) What was the "Mozart effect"?
3) Why should Mozart's music be the focal point of this debate, rather than other classical composers such as Bach, Beethoven or Chopin?

2. *Directions: Read the passage and decide whether the following statements are true or false. Choose T (true) if the statement agrees with the information given in the passage, F (false) if the statement contradicts the information given in the passage and NG (not given) if it is not mentioned in the passage.*

1) ________ Katia Eliad felt frustrated in her creativity because she could not recognize the color of green or blue when she was painting.
2) ________ Frances Rauscher gave scientific support to "Mozart effect" in 1993.
3) ________ Handing out classical-music CDs to the parents of all infants was approved by some states in the U.S..

4) ________ Only the music of Mozart can achieve the soothing effect and enhance the brain power of human beings.
5) ________ The comforting effect of Mozart's music is attributed to the way he repeats his melodies.

3. *Directions: Read aloud and listen to the audio of the text for full understanding.*
4. *Directions: Practice subvocal reading at fast speed (200 words per minute).*
5. *Directions: Try to suppress subvocal to achieve faster reading speed.*

II. Blank Filling

Directions: Please choose an appropriate word from the following box for each blank. Make changes if necessary.

straddle	diagnosis	wick	mellow	jealousy
syndicate	sacrament	disclosure	municipal	monotony
mystic	etiquette	cheesecake	stamina	barracks

1) The ________ has already caused a furore among MPs.
2) It's very hard to turn the ________ up and down.
3) They debarred him from the religious ________.
4) He announced that the army and police had been confined to ________.
5) She watches television to relieve the ________ of everyday life.
6) He is interested in ________ rites and ceremonies.
7) The rules of ________ are not so strict nowadays.
8) The factories ________ the entire state.
9) Our bakery special is ________.
10) It takes a lot of ________ to run a marathon.

III. Translation

Directions: Please translate the following sentences into Chinese.

1) Another unproven legend, given widespread credence thanks to the hit movie *Amadeus*, depicts him as the victim of jealousy from his court rival Antonio Salieri.
2) In this New Age interpretation, Mozart is the ultimate composer—therapist whose music can help treat ailments and even, it is claimed, make you and your kids smarter.
3) "Nobody ever said listening to Mozart makes you smarter," she complains, pointing out that her research showed only a temporary and limited improvement in the student's spatial reasoning, rather than a sustained and general increase in IQ.
4) Listening to Mozart, she now reckons, may not be as important for the brain as the general sense of mood of arousal brought about by doing something that is enjoyable.
5) But Mozart's musical sequences tend to repeat regularly every 20–30 seconds, which is about the same length of time as brain-wave patterns and other functions of the central nervous system.

IV. Writing

Directions: Please use your imagination and write a paragraph about a topic you like, including at least five of the words given below.

annum	bedside	braid	coil	mama	brickwork	saucer	landlady
hearth	pushchair	exterior	slurp	Kuwait	curate	parsnip	sanitary

V. Additional Vocabulary Fun

1. *Directions: Match the words in the left column with their corresponding explanations in the right column.*

1) retaliate	**a.** something that is free
2) anorak	**b.** relating to or associated with flowers
3) undercover	**c.** a species of plant in the family Polygonaceae
4) firearm	**d.** the process of taking food into the body through the mouth
5) daresay	**e.** properties acquired during a person's formative years
6) upbringing	**f.** to think or to consider
7) pavilion	**g.** a subsidiary building that is either positioned separately or as an attachment to a main building
8) rhubarb	**h.** conducted with or marked by hidden aims or methods
9) intake	**i.** a portable gun
10) qualm	**j.** uneasiness about the fitness of an action
11) floral	**k.** a type of coat with a hood, often lined with fur or faux fur
12) hulk	**l.** a device which allows electric current to pass around another point in the circuit by creating a low resistance path
13) cobweb	**m.** a dense elaborate spider web that is more efficient that the orb web
14) freebie	**n.** to take revenge for a perceived wrong
15) shunt	**o.** a ship that has been wrecked and abandoned

2. *Directions: Choose the word which does not belong to the same group and write the letter in the bracket.*

1) (　　)	A. rename	B. repertoire	C. remand	D. reset
2) (　　)	A. hag	B. Scotsman	C. serviceman	D. sportsman
3) (　　)	A. ruthless	B. bridesmaid	C. sly	D. moderate
4) (　　)	A. artwork	B. memento	C. merchandise	D. rotary